THE BUILDER
A JOURNAL FOR THE ARCHITECT & CONSTRUCTOR

VOL. CXLVIII. MAY 24 1935. No. 4816

R.A. EXHIBITION, 1935.

"CREATION" (Stone).

By WILLIAM C. H. KING.

MEETINGS

FRIDAY AND SATURDAY, *May* 24 *and* 25.

Royal Sanitary Institute. Friday: Dr. Allan Semple, Medical Officer of Health of Carlisle, and Mr. W. Hanson, Sanitary Inspector, Carlisle, on "Housing, with Special Reference to Overcrowding"; at the Town Hall, Carlisle; 5 p.m. Saturday: Mr. Percy Dalton, City Surveyor and Water Engineer, on "Some Recent Developments in Carlisle"; at the Town Hall, Carlisle; 9.30 a.m.

MONDAY, *May* 27.

The Chartered Surveyors' Institution. Annual General Meeting, to receive the Council's Report, and the announcement of the result of the Election of the Council. At 12, Great George-street, S.W.1. 5 p.m.

TUESDAY, *May* 28.

Architectural Association. Sir E. Owen Williams on "The Swimming Pool and other recent work at Wembley Stadium." Election of Officers and Council for Session 1935-36. 8 p.m.

TUESDAY-SATURDAY, *May* 28-*June* 8.

Architectural Association. Exhibition of Working Drawings of Recent Work at Wembley Stadium. 10 a.m.-10 p.m.

THURSDAY, *May* 30

London Society. Annual Dinner. At the Hotel Victoria, W.C.2. 7.45 p.m.

FRIDAY, *May* 31.

Chartered Surveyors' Institution (*Surrey Branch*). Annual Meeting. At Great George-street, S.W.1.

"THE GULL'S WAY AND THE WIND'S WAY"

Panel in Sycamore.

By BETH JUKES.

"THE CONQUEST OF THE AIR BY MAN"

Model for Bronze Panel.

By GEOFFREY H. DEELEY.

For Article on Royal Academy Sculpture, see page 960.

On left :

"BETHLEHEM."

By PERCY BROWN.

"CONTENTMENT."

"WISDOM."

PANELS FROM A SERIES FOR THE COMMERCIAL BANK OF SCOTLAND.

By GILBERT BAYES, R.B.S.

SCULPTURE AT THE ROYAL ACADEMY.

THE AMENDMENT OF THE LONDON BUILDING ACT

AFTER four years of concentrated work the Report of the Advisory Committee on the Amendment of the London Building Act is at last before the public, and in its 84 closely packed pages can be seen something of the immense labour which has been put into the consideration of this intricate and difficult subject. The recommendations of the Committee are designed to simplify and facilitate the erection of buildings within the administrative County of London, and at the same time to bring them under a reasonable and orderly system of control.

Probably the most controversial of the Committee's recommendations is that relating to the height of buildings; but it cannot be overlooked that the present law in this respect is grotesquely uneven in its operation. While new buildings, erected on the sides of streets less than fifty feet wide formed since 1862, are limited in height to the width of the streets, plus the forecourt, if any, a new building abutting on a narrow lane of any description laid out before that date may be erected to the full height of 80 feet, with two additional stories in the roof, whatever the width of the street. It is true that certified plans may be necessary showing the previous existence of an old building within the prescribed distance; but it is obviously unwise in the case of these narrow streets to continue the present practice of allowing the mere existence of an old shed or a one-story building to give the right to re-erect a building 80 feet or more in height.

The Advisory Committee's recommendation is that the statutory maximum height of buildings should be prescribed as "twice the distance of the front wall of the building from the opposite side of the street on which the building fronts or 100 feet, whichever be the less." Above that height it is recommended that additional stories with vertical enclosures should be permitted provided that such stories are stepped back to come within an angle of 63½ degrees drawn at the statutory maximum height. This means, in effect, a recommendation that buildings may be of any height, provided that the height does not exceed a 2 to 1 angle from the opposite side of the street. While of considerable advantage in controlling buildings abutting on streets of comparatively narrow width, it will be obvious that on all streets of 50 feet or greater width, the full height of 100 feet would be permissible, with such additional stories as may be required stepped back above that height. A recommendation of such general application would appear to conflict with the limitations ordinarily incorporated in a town-planning scheme, and now that the whole of London is proposed to be brought under town-planning control, it is desirable that the effect of such a recommendation should be carefully considered.

In relation to streets of a purely business character, the recommendation of the Committee will meet with some measure of general approval. In areas, however, at present purely residential, the intrusion of a block of flats of 100 feet or more in height inevitably brings in its train an alteration in land values and a rapid change in the character of the adjoining district. Provided that such change is brought about as part of a well-considered plan, it may be all to the good, but wholesale relaxations of this kind may well upset the balance of the best town-planning scheme. As the Committee well say in their Report: "If the benefit is to be reaped from town-planning, it should be co-ordinated with a full and progressive knowledge of the subject of building. A practical outlook on this matter is specially important in a closely built up metropolis, wherein effective reconstruction can only be carried out by proposals based on a full understanding of building needs and possibilities." This is a subject in which the individual building cannot well be entirely divorced from its surroundings, and we are inclined to think that our town-planning friends will not readily fall in with the general application of a "'' cast-iron '' street proportion of this kind, however admirable it may be for the inner area of the City and the business streets of the West End. Regarded as a maximum, however, it affords a useful basis for height zoning, and we may yet have a central area with a 2 to 1 height zoning, beyond which there may be areas in which the height limit is 1½ to 1, and also the better planned residential areas in which the standard of 1 to 1 set by the 1862 Act may be found to be still a practicable one.

The objects of the Committee's Report are avowedly to lead to uniformity and minimise the number of applications for special consent which at present have to be made to the Council; to simplify procedure for applicants; to indicate methods of producing speedier decisions; to reduce the cost of building without impairing safety; and to avoid requirements demanding uneconomical construction. In all these objects the Committee will have with them the whole-hearted support of the building industry and of the architectural profession. In their recommendations as to matters of building construction, the Committee specially emphasise the necessity for taking the fullest possible advantage of the improved strength of structural steel, but they give a note of caution with regard to the welding of joints, which they suggest should be authorised only in joints not subject to direct tensional stress and which are made on the ground under close supervision.

The detailed recommendations with regard to amendment of the present Building Act cover nearly every section and provide for many much-needed revisions. Ever since 1894 there has been power for the Council to require new streets to be of a width up to 60 feet, and it is suggested that this limit should be removed, subject to proper compensation. This is a useful power which should be, at any rate occasionally, used; but there is all too little room for new streets now left in the County of London. In connection with lines of building frontage, it is suggested that "erections" of all kinds should be brought within the section, and that it should be possible to secure officially certified plans of old buildings quite apart from the question of prescribed distance from the centre of the road.

Valuable suggestions are made as to open spaces about buildings. There is recommended a certain stiffening up of requirements with regard to means of escape in case of fire, particularly in the recommendation that buildings only 27 feet in height should be regarded as high buildings, as against 50 feet under the present law. The rights of building and adjoining owners in respect of party walls are a special prerogative of London building law and have worked well for many centuries, and it is recommended that these provisions should be extended to include grillage foundations and that notice should be served in respect of deep level excavations even at some little distance. Recommendations are made for a joint examination advisory board to conduct the examination of candidates for District Surveyors. Instead of the present Tribunal of Appeal, a panel of five is recommended from whom three persons would normally be selected, with regular monthly sittings and the Committee visualise more frequent appeals.

There are a number of useful recommendations on the administration of the Act which should simplify procedure, but when it is remembered that the Council and the district surveyors at present deal with about 50,000 buildings and alterations every year, it is somewhat of a marvel that so much is accomplished with so little fuss.

NOTES

Abandonment of Restrictions on Public Works.

"THE restriction of public works by the Ministry of Health on the grounds of economy, which had to be given primary importance in and immediately after the crisis of 1931, has now been definitely abandoned," states the Building Industries Survey published this week by the Building Industries National Council. The Council state that at the present time any proposals submitted by local authorities are considered by the Ministry and, when satisfactory, sanctioned on their merits. It is understood that this position is well known to the local authorities, although no official circular letter has been sent to inform them of the change of policy. As a result of the relaxation of restrictions, the amount of loans sanctioned last year for public works other than housing increased by 30 per cent. above the figure of either of the two previous years. It will be remembered that the Building Industries National Council has been pressing for the abandonment of the restrictions, through its Special Committee for Public Relations, since 1932. As recently as last January, a Report on Long-Term Public Works Policy was submitted to the Government, calling for a more vigorous and positive policy with regard to public capital expenditure.

The Chair of Town Planning, University of London.

THE University of Liverpool gave London its first Professor of Town Planning in Professor Adshead, who has held the Chair of Town Planning in the Bartlett School of Architecture at University College since 1914. The University is peculiarly fortunate in securing as his successor Professor Patrick Abercrombie, who since 1915 has been Lever Professor of Civic Design at Liverpool. During these last twenty years he has been engaged in educating town planners, and has himself been a leader in every movement for the improvement and preservation of town and country alike. His regional work as a town planner has been varied and widespread, and stretches from Cumberland to Kent. In Sheffield he worked at a housing and industrial problem; in Kent he worked at the problem of preserving the amenities of a beautiful countryside when industrial development had become inevitable; in Ireland he showed another side of his work in his town planning scheme for Dublin as a capital city. His interest in planning is not confined to town and industrial areas: he was one of the three persons mainly concerned in the founding of the Council for the Preservation of Rural England, and his work there has shown the necessity of proceeding by country preservation to country planning, and finally to national planning. It is of interest here to note that he has recently been appointed to prepare the plans for a national park in Snowdonia.

Town Planning in London.

THE series of town planning schemes published by the University Press of Liverpool, *The Town Planning Review*, started in 1910, and issued for the last twenty-five years under Professor Abercrombie's editorship, form a substantial written and pictorial record not only of his work, but of all those who have devoted themselves to these problems during the reign of King George. Professor Abercrombie comes to London at a time when questions of town planning are more in the public mind than they have ever been before, and when London is becoming acutely aware of the need for the preservation of some of its rural surroundings. As Professor of Town Planning in the Bartlett School of Architecture in University College, Professor Abercrombie will be working with the University Professor of Architecture. His work in collaboration with Professor A. E. Richardson will no doubt be of the same happy and fruitful character as his work during the last twenty years with Professor Reilly.

"ESCOM" HOUSE, JOHANNESBURG.

MR. P. ROGERS COOKE, L.R.I.B.A, Architect. (See page 957).

The Architectural Association Reception.

ON Thursday last week, at the premises of the A.A. in Bedford-square, a representative company of members and guests were received by the President of the Association, the Hon. Humphrey Pakington, F.R.I.B.A., and Mrs. Pakington, on the occasion of the 87th annual reception of the Association. In many rooms there were exhibited interesting old volumes, excellent drawings by architects of many centuries, paintings and sculptures and other works of art. Amongst these was a collection of children's books on London published between 1784 and 1851, lent by Mr. G. H. Hart, as well as a collection of drawings of buildings designed by architects trained in the Association's school and by members of the staff during the last three years. A well-arranged programme included music by the band of the Commander-in-Chief, The Nore, a cabaret by the Guildhall School of Music pupils; and dancing, which began at 10 p.m. We understand that the Association has planned to continue its exhibition of works of art and to vary the exhibits month by month. Not least noticeable of the works of art were many of the dresses worn by the ladies present. The evening was an

R.A. Exhibition, 1935.
"WATER BABY": Garden Figure in Lead.
By ANNE ACHESON.

altogether charming function, worthy of the traditions of the Association, which has rendered such long and valuable service to the cause of architecture.

R.A. Exhibition, 1935.
"MASK OF A GIRL": Bronze.
By ALFRED F. HARDIMAN.

Volume Catalogue of the R.I.B.A. Library.

The R.I.B.A. has received a gift of £500 from Sir Banister (Flight) Fletcher, F.S.A., Past - President, towards the publication of a volume catalogue of the library, and we are informed that the gift will enable the Literature Standing Committee of the Institute to start at once on the work of preparing the catalogue. When the new card index for the Portland-place library was started three years ago, the Committee decided to print all the entries and to hold the type so that the work done then would be available if and when the opportunity should arise of publishing a volume. The Committee's foresight has been amply justified by Sir Banister's generous gift, which has made an immediate realisation of these hopes possible. The volume catalogue, which as the result of this gift can be sold at a price certainly under half its production cost, will greatly increase the value of the library to members outside London.

Building in Johannesburg.

A correspondent closely in touch with building in the Union of South Africa informs us that an unprecedented building boom is now being experienced in Johannesburg, consequent upon the active state of the gold market. Buildings of all types are being erected, many of them in the modern trend. One of the most important buildings now being erected is shown on the opposite page. It will contain new premises for the Johannesburg Electricity Supply Commission, and has been designed by Mr. P. Rogers Cooke, L.R.I.B.A. The height of the main block is 170 feet, and the height to the top floor of the tower is 190 feet. Fifteen floors and a basement are provided, the centre block containing two floors more. The walls are of granite, precast stone and brick. Our correspondent informs us that there is a considerable shortage of skilled labour in the Union at the present moment, notably amongst plasterers and tilers. The average wage for tradesmen is in the neighbourhood of 3s. 6d. per hour, and he further tells us that a single man can live comfortably for £8 per month.

Litter and Refuse.

An amusing letter appeared a few weeks ago in *The Times*, under the title "A Spring Clean for England." It was written in a vein of cynicism to prove that it is hopeless to try to stop the littering of the countryside. "To abstain from that is contrary to the instincts and habits of the English people." But the suggestion was put forward that England might have a spring cleaning for Jubilee Day—on the principle that every year, about this time, every English home is spring cleaned. Where exhortations and appeals seem to achieve so little, it is possible that cynicism may sting the less hardened offenders, whose greatest offence is thoughtlessness.

R.A. Exhibition, 1935.
"WATER BABY": Garden Figure in Lead.
By ANNE ACHESON.

R.A. Exhibition, 1935.
"THOUGHT": Bronze.
By EDWARD H. LACEY.

GENERAL NEWS

Professional Announcement.

Mr. W. S. Crosher, M.B.E., F.S.I., has removed to Cromwell House, Fulwood-place, High Holborn, W.C.1, where he will be joined by Mr. W. R. Crosher, P.A.S.I., and Mr. W. James. The name of the firm will be Crosher and James, Chartered Quantity Surveyors. Telephone number: Chancery 7734. Current trade catalogues will be appreciated.

District Surveyor and Building Surveyor Examinations.

At the R.I.B.A. Statutory Examination for the office of District Surveyor in London, held on May 1, 2 and 3, seven candidates presented themselves, and the following were successful in the examination: Mr. Henry G. Castleman, Mr. William Jones, Mr. Walter B. Young. At the R.I.B.A. Examination for the office of Building Surveyor under Local Authorities, held on May 1, 2 and 3, four candidates presented themselves, and the following were successful: Mr. William J. H. Cowling, Mr. Frank B. Sharpe, Mr. George W. Stratton.

The Epstein Sculptures.

Mr. Jacob Epstein, the sculptor, has written to the Royal Academy asking that his name be withdrawn from the list of candidates for membership, and it is stated that this action has resulted from the proposal to remove from the building the 18 statues executed by him for the British Medical Association headquarters, now the premises of the Southern Rhodesian Government, in connection with which Sir William Llewellyn, President of the Royal Academy, had, in his private capacity, declined to sign an appeal for their preservation. Sir William has since stated that the Royal Academy was not approached officially in regard to the matter. The Secretary, Mr. W. R. M. Lamb, stated on Monday that Mr. Epstein's name has not been on the list for nomination since 1932.

Mr. Richard Sickert, R.A., has resigned his membership of the R.A. He states, in a letter to Sir William Llewellyn: "If the R.A. cannot throw its shield over a great sculptor, what is the R.A. for?"

Buildings Dispute, Ruislip and Northwood.

At a recent meeting of the Ruislip and Northwood Urban District Council, the following motions were carried: "That the clerk be instructed to inform Messrs. Walter Taylor (Builders), Ltd., that the Council are of opinion that they had not, in accordance with the notice served upon them, shown sufficient cause why the houses in course of erection by them in Park-avenue, Ruislip, should not be removed, pulled down, or altered as provided by Clause 69 of the Ruislip-Northwood Town Planning Scheme, 1914; and that the firm be requested to state for the consideration of the Council at their meeting on May 13 as to whether they are now prepared to alter plan No. 4,661 submitted by their architects at the meeting of the Council on August 21, 1934." The architects for these houses are Messrs. Connell, Ward and Lucas, whose plans for two modern houses, it will be recalled, were rejected by the local Council last year, and were the subject of an appeal under the local Town Planning Act. We understand that the matter not having been settled to the satisfaction of the Council, an appeal is to be lodged by the builders with the Ministry of Health.

Obituary: C. S. Errington.

Mr. Charles Septimus Errington, architect and surveyor, 21, Grainger-street-west, Newcastle-on-Tyne, has died at the age of 66. Mr. Errington received his education at Dr. Bruce's Academy and served his articles with a Newcastle firm. Over 40 years ago he started out in Newcastle on his own account and built up an extensive connection. He designed numerous buildings in the north-east, including 300 dwellings for the Sutton Dwelling Trust at Cleadon, South Shields; about 300 at Newcastle: while another scheme which he had in hand was for 300 at Gateshead. He designed St. John's Church Schools, Newcastle; St. Paul's Church Schools; houses on the Pendower Estate, Newcastle; West Jesmond Day School; and Lloyds banks in Newcastle, Sunderland and West Hartlepool. He was also one of the five on the short list of architects for the new £225,000 colleges, to be built by Newcastle City Council to the designs of Messrs. Marshall and Tweedy, FF.R.I.B.A. He was a past-president of the Northern Architectural Association, and was associated with other bodies.

Public Appointments.

Manchester City Architect's Department invite applications for two posts: (a) temporary architectural assistant, salary £300; and (b) permanent architectural assistant, salary £215. Forms from City Architect, Town Hall, returnable by June 5.

Manchester Town Planning and Buildings Department require permanent district building inspector, salary £250. Applications on form from City Architect's office, by June 5.

Gateshead C.B. invite applications for post of architectural assistant (permanent), salary £260. Preference R.I.B.A. members. Applications on forms from Borough Engineer, Municipal Buildings, Swinburne-street, returnable by June 8.

Newcastle-upon-Tyne require two architectural assistants (salary £5 per week each) and one quantity surveying assistant (salary £4). Applications to Mr. R. G. Roberts, F.R.I.B.A., 18, Cloth-market, Newcastle-upon-Tyne.

Admiralty require assistant surveyor. Salary £297-£534. Applications, on form from Secretary, Civil Service Commission, Burlington-gardens, by June 20. Age limits, 22-28.

Newcastle-upon-Tyne invite applications for permanent post of a clerk of works in city estate department. Salary £5 5s. per week. Forms, from City Estate and Property Surveyor, Town Hall, by June 1.

States of Guernsey require (a) chief engineering assistant; salary, £400-£500; and (b) second engineering assistant—salary, £350-£450. Applications by June 8 to Mr. H. E. Marquand, States' Supervisor, States Office, Guernsey, Channel Islands.

North-East Lancashire Region No. 2 Joint Town Planning Committee invite applications for town planning assistant—salary, £220-£250. Applications to Mr. A. Race, Chairman, Surveyors' Sub-Committee, Town Hall, Burnley, by June 8.

Maldon T.C. require clerk of works. Applications to Mr. C. H. Cloughton, clerk, Maldon, Essex, by May 30.

Greenwich B.C. require general foreman in housing department. Salary, £5. Applications to Mr. D. J. Reason, Town Clerk, Town Hall, S.E.10, by June 3.

Hackney B.C. are to invite applications for the post of deputy borough engineer, consequent upon the retirement of Mr. F. T. Hutchins on August 7 next. The salary to be offered is £600, rising to £700. Applicants are to be Associates M.Inst.C.E., and to hold testamur I.M. and Cy.E.

CORRESPONDENCE

Private Practitioners and Salaried Architects.

SIR,—All of us who are salaried, in whatever capacity, will rejoice to see the R.I.B.A., in its recent circular to local authorities, trouncing the practice of engaging qualified salaried architects to design and carry out work under the "control" of unqualified figureheads, who are often not architects, but who reap the credit of the work. But why limit these observations, as the circular does, to official offices? We know to our cost that such phenomena are the day-to-day experience of salaried architects in the majority of private offices. Here, as elsewhere, the work is designed, drawn and supervised by qualified salaried architects, who receive neither public credit nor adequate financial return for their skill. These are the perquisites of the gentleman whose name is on the brass plate, and who, as often as not, is merely a professional clubman, a financier, or simply a pleasant fellow who chatters of—but knows nothing about—architecture.

Can we not, therefore, confidently expect a further circular from the R.I.B.A. on much the same lines as that already issued to local authorities, but directed specifically to private offices?

HARRY COUPERSON.

Holloway, N. 7.

WEMBLEY COMPETITION

ASSESSOR'S REPORT.

The report of the assessor in this competition, Mr. Stanley Hamp, F.R.I.B.A., is as follows:—

"The response of the architectural profession to the competition has been most satisfactory, and I am able to state that on the whole the designs show a high standard. The number of sets submitted was 100. The conditions laid down were generally complied with by competitors.

"The necessity for dealing with the several buildings for different usages so as to produce a satisfactory architectural result was difficult, although an interesting problem, and various types of plans were produced, some of them ingenious but hardly practicable. The site chosen is a good one, with a southern slope to the main road approach, providing facilities for creating an effective and dignified setting.

"The sum stated in the conditions as to the limit of cost made it necessary that in order to provide for the accommodation laid down the utmost simplicity both in plan and elevational treatment would be essential. The juxtaposition of the several buildings so that for dual purposes they would be convenient was a determining factor in the lay-out. Some designs of otherwise high merit failed in this respect. Although the site was convenient in shape and ample for its purpose, it was necessary that the buildings should be planned well set back from the main traffic road and yet to provide sufficient parking space for the numerous cars that would on occasion have to be accommodated. At the present time, and even for many years to come, the public approach would tend to be from the south-west direction.

"The first premiated design is very clearly the work of an accomplished architect. I had no hesitation in making the award. It fulfilled, in my judgment, all the requirements for a very efficient and practical solution. It is simple and direct in plan, and the elevational treatment shows refinement and simple proportions, while at the same time producing a dignified and impressive building. The position on the site is admirable in every way, and lends itself to an effective architectural setting. The approaches to the several buildings are well arranged, and the accommodation for cars is adequate.

"The treatment of the interior of the building is again well conceived, and although simple in character would be refined and dignified in effect. There are one or two minor defects in connection with the lighting in the building, particularly the rates department, but these are quite capable of adjustment when the plans are further developed.

"The total estimate given as the cost of the buildings, having in mind the method of construction and the materials to be used, and the general simplicity of the scheme, fulfils the conditions, although I am of the opinion that the estimated cost of the municipal building portion is too low. On the other hand, the ground work is unnecessarily high. In my judgment, when tenders are obtained for the scheme, as submitted, the figures should be within the 10 per cent. allowed by the competition conditions."

The names of the authors of the four premiated designs were given in our last issue. The designs submitted by the following were commended: H. R. Collins and A. E. O. Geens, 15, Westover-road, Bournemouth; R. G. Cox and Arthur M. Mitchell, Broadway-chambers, 60a, High-street, Acton, W.3.

The Second Design.

In our announcement last week of the result of this competition, we stated in error that the second design was by Mr. S. G. Livock. This design, in fact, was by Messrs. Arthur Wm. Kenyon and Stanley G. Livock, FF.R.I.B.A., and, in company with the winning and third premiated designs, is illustrated in our current issue.

WEMBLEY MUNICIPAL OFFICES COMPETITION.

This competition, as the requirements given in the conditions indicate, was for a small civic centre—municipal offices, fire station, library and public hall. That this term is not used in the conditions is probably intentional, as it would tend to produce something too elaborate and costly for a small, though rapidly growing, suburb.

The conditions, which were clear and without ambiguity, lay stress on the need for economy. "In adjudicating upon designs preference will be shown to those in which economy of planning and construction have been observed"; and again, "preference will be shown . . . to those that express simply and appropriately the municipal and official nature of the building." In view of this it is surprising that among the hundred designs sent in so many appear still to have the pre-War type of municipal building with architectural features and trimmings in mind as the most appropriate treatment for a suburban district.

Other points which are worth special note in the conditions, and which have, no doubt, attracted many competitors, are that only small 1-16th in. scale plans with a detail to $\frac{1}{8}$ in. scale were required; that the disposition of the several units was left to the competitors; that the schedule of floor areas . . . "may be interpreted with reasonable freedom," and a very useful note that "symmetrical and unsymmetrical plans will be considered on their respective merits." These points in the conditions may be commended to assessors generally, and it is interesting to note that not only have they resulted in a large number of interesting solutions to the problem—which was not an easy one—but also that it is perfectly possible for the average man (provided that he can read a plan) to appreciate the merits of the various schemes.

We feel it is desirable that in public competitions, involving much thought and skill, the conditions should be so framed as to avoid unnecessary labour in the mere presentation of the scheme: this is obviously to the advantage, not only of competitors but also the promoters, as it tends to attract a large number of really skilled men, and thus ensures the selection of the best design that could be hoped for.

In the space at our disposal we are unable to mention many of the designs submitted which are of interest, but shall confine our remarks to those selected by the assessor, and one or two others which are typical examples.

The winning design, by Mr. Clifford Strange, shows a simple direct scheme, with the municipal block facing the main thoroughfare, Forty-lane, the public hall being on the west with the main entrance on the new West-road, while the fire station is placed to the east. The plan is unsymmetrical and open, which seems the right solution with a large open space available. The rates office faces the main entrance, from which stairs lead up to the council suite and town clerk's department on the second, or top floor. The library is placed at the west end of the municipal block, and the health department occupies the eastern portion of the same block. The elevations are entirely without "trimmings," and depend for their effect on good proportion. The accommodation for car parking is adequate, and the approaches and entrances to the various parts of the scheme are well planned. The whole scheme is noteworthy as having that appearance of simplicity which comes from the elimination of non-essentials, and should result in a building of character and distinction.

The design placed second (Messrs. Arthur Kenyon and Stanley Livock, FF.R.I.B.A.) also has an unsymmetrical plan, in which, however, the main entrance is placed in the centre of the façade. The municipal office block occupies the main front to Forty-lane, with public hall to the west, and library and fire station to the east. This also is a building of three floors, and it can be classified as an open type of plan, though a part of the buildings are grouped round a large central court. The scheme is illustrated by good, clean drawings, and the elevations are distinctive and interesting, and, no doubt, contributed in the placing of this scheme as one of the premiated designs. The curious finial (a kind of exaggerated flag-pole on the tower, which is reminiscent of a well-known foreign example) is not very happy.

The third premiated design, by Messrs. Lyons and Israel, shows a well-arranged plan, with the municipal offices facing the main road, public hall to the east and library and fire station on the west of the site. The building is on three floors, and a feature of the general arrangement of the plan is that the main entrance both to the municipal offices and the public hall is on the main frontage. The council chamber occupies a central position on the upper ground-floor plan. The pronounced slope of the site has been skilfully made use of, and the elevations are good though not brilliant.

Two sets were highly commended by the assessor. No. 25, Messrs. Collins and Geens, of Bournemouth, shows a good plan of a more conventional "enclosed" type, which has been carefully thought out. The municipal office block is in the centre of the main front, with two projecting wings, in which are placed the rates office and the housing department. The assembly hall is at the rear, with the entrance from the West-road and library at east end, while behind this on the east side is a detached block housing the fire station. The elevational treatment of this set is not as good as its planning.

Messrs. Cox and Mitchell (No. 73) have another solution, which is also of the "enclosed" type, with the municipal office block on main front and rates office at the south-east corner, council chamber and suite in the centre on upper floor, and the assembly hall and library to the rear, approached from a new east and west road. This is well-planned, and access, etc., is good. The fire station is planned as an isolated building to the west of the main block. The large tower seems hardly worth the money it would cost, and the elevations would gain by its omission. The plan generally, though good, lacks the directness and simplicity of the winning design.

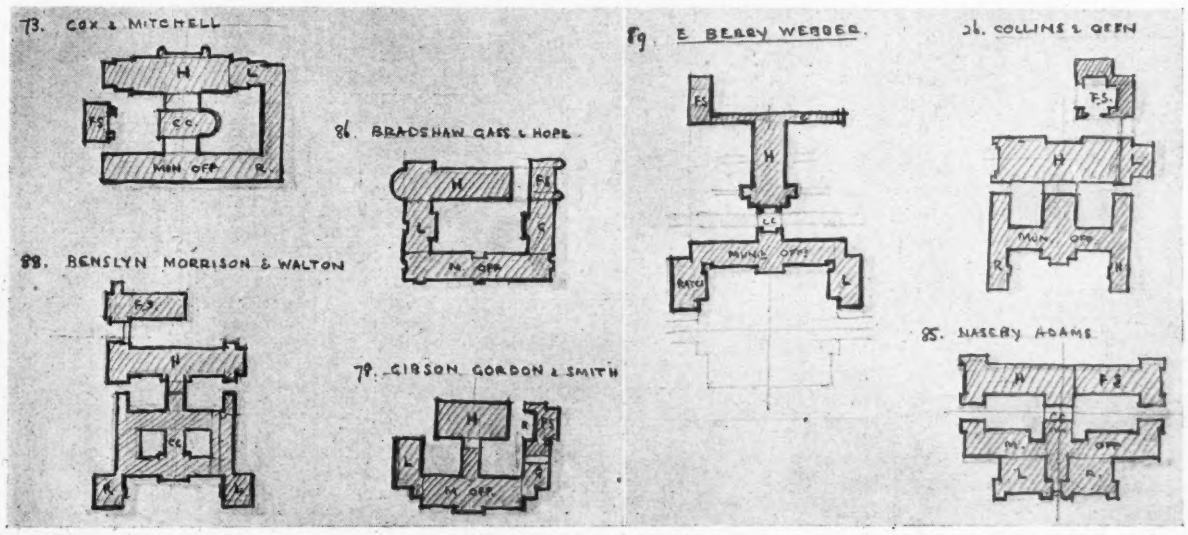
Mr. E. Berry Webber (No. 89) sends a very interesting scheme which, however, appears perhaps rather too magnificent for Wembley. He has realised the possibilities of this large open site and the difference in levels better than any of the other competitors, and the proposed public square or forecourt in front of his building would be extremely effective. This scheme shows the municipal block on the main front with two projecting wings, that on the west being for rates office, while on the west is the library. The public hall occupies the central portion on the first floor, but (owing to difference in level) has direct access at ground-level east and west. The garage and fire station are placed at the rear. The elevations are unusual and striking, but do not quite suggest a municipal building. The drawings are not as good as might be expected, and do not do justice to the conception.

Messrs. Benslyn, Morrison and Walton, of Birmingham (No. 88), show a good plan of the enclosed and symmetrical type: the elevations are pleasant and slightly reminiscent of a Florentine palace.

Messrs. Bradshaw Gass and Hope send two schemes, of which the best is No. 86. This is of an "enclosed" type, and more or less symmetrical in arrangement, but the elevations are not. The planning is well thought out, but lacks the simplicity of the winning design, and the elevations look a little hasty.

Messrs. Gibson, Gordon and Kebel Smith (No. 78) show an unsymmetrical scheme, which is good in its general arrangement. The elevations have been carefully considered from all possible view-points.

Mr. Naseby Adams (No. 85) submits one of the best plans of the enclosed and symmetrical type. His elevations would probably look better in execution than they do on the drawings.


73. COX & MITCHELL
86. BRADSHAW GASS & HOPE
88. BENSLYN MORRISON & WALTON
78. GIBSON GORDON & SMITH
89. E BERRY WEBBER
25. COLLINS & GEEN
85. NASEBY ADAMS

Sketch Plans of designs submitted in the Wembley Municipal Offices Competition.

SCULPTURE AT THE ROYAL ACADEMY

By T. P. BENNETT, F.R.I.B.A.

THE most powerful work in this year's academy is the fine bronze statue by Charles Wheeler, which he has named "Adam." "Adam," presumably, in this case is symbolic of perfect creation—young, virile, outstanding early manhood, typical of the best of the human race, and not the lowest depths of which "Adam" so often becomes a symbol. This work of Wheeler's is an example of his most accomplished, brilliant style. The handling of the general mass and the detailed modelling of various parts of the figure, together with the fact that the sculptor has succeeded in achieving outstanding personality without being eccentric, is significant of a very high degree of accomplishment. The bronze, in fact, achieves life and vitality without sacrificing the essential quality of repose which should belong to every great work.

Of the large figures, the next which is worth serious attention is the teak "Madonna and Child" of David Evans. This work also achieves highly decorative qualities, coupled with simplicity, of the conventional design which characterised Evans's early work. The figure is not only good decoration, but is very fine craftsmanship, and it is particularly forceful, both in the full view and in silhouette. It lacks, perhaps, religious mysticism, which some schools of thought may expect from work of this character; on the other hand, it manages to achieve qualities of inspiration which fully compensate for any religious qualities which may not fully be there. As decoration, and in an architectural setting, it could not fail to be effective.

Among the remaining works in the lecture hall, attention cannot fail to be focused upon Leonard Merrifield's model of the head of the statue of Lord Carson of Duncairn, which is to be erected in Belfast. This head, part of the statue which is to be 12 ft. high, and therefore of heroic size, is an extremely forceful portrait and sufficiently conventional in treatment to make it good decoration. As an indication of the general handling, the setting of the head on the shoulders promises to produce a memorial which should reach a very high standard.

The group called "Creation," by Wm. C. H. King, leaves the critic halting between two opinions. On the one hand, there is an unstinted admiration of the very beautiful figure, some fine, tender modelling of the female head and torso. With this is coupled an equal degree of pleasure at the standard of success in the modelling of child form and real atmosphere of baby shapes and attitudes. On the other hand, the combination of the two figures and the uncomfortable attitude of the child perpetuated in stone would tend to make the whole group disturbing to live with. The final result must give the suggestion of brilliant conception and beautiful execution, but the composition has failed to reach the standard of quality of the rest of the work.

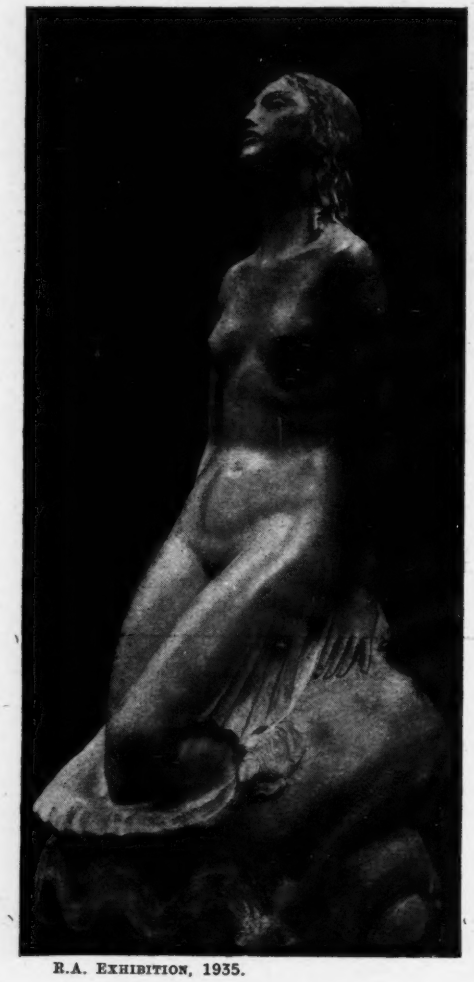
The tombstone by Bainbridge Copnall is good decoration, and an extremely valuable departure from the conventional "Angels" and "Death," which are all too familiar in the churchyard. It would make an effective and inspiring headstone in almost any surroundings.

The Bust of H.M. the King, by Reid Dick, follows the conventional lines of the Royal portrait, and reaches only a conventional level of achievement and interest. Whilst speaking of the King, reference must be made to the bronze by Lady Hilton Young which, with a rougher and more powerful technique, manages to convey a much finer picture of the Sovereign and becomes a better piece of work. This bronze bust has excellent character and fine sculpturesque qualities. It has a vigorous achievement which secures complete unity, only to be found in a work of real inspiration; and it shows that the Royal bust can be made a work of art if the sculptor has the necessary power and intuition.

One of the outstanding features of the Academy sculpture this year is the number of works carved in wood. The Exhibition contains no fewer than seventeen of these figures—a great increase on previous years, and in many cases the handling is extremely successful and very suitable to the material.

Direct carving should show sympathy with the medium, power to turn the grain of the wood and the form of the bole to real artistic use. A simple design and very beautiful figure of this type is by Arthur J. J. Ayres, called "Erda," a direct carved bole. This is a female figure with a simple, attractive silhouette, in which some fine effects are obtained by making the grain fit the form and shape of the figure and the salient points of the modelling.

Other carved wood figures which should be examined with interest are the "Dancer" statuette in wood, by Edith M. Gabriel, which is compact and very well handled.



R.A. EXHIBITION, 1935.

"A NYMPH": Figure for Garden Pool.
By RICHARD GARBE, A.R.A.

"Sigurd," by Ernest Webb, is a relief in wood, with attractive, simple technique and sharp square detail, making it both good sculpture and good decoration.

"Maya," by H. Robenbery-Fleck, and a relief, "The Gull's Way and the Wind's Way," by Beth Jukes, are joyous, simple little pieces of carving which have a certain amount of spontaneous attraction. Among the smaller figures, there is an unusual piquant attraction in "The Praying Girl," by Winifred Leveritt. This strongly conventionalised figure is simply and attractively handled.

An entirely different character is achieved by "Water Babies," by Anne Acheson—a garden figure in lead. It has all the charm of babyhood while skilfully avoiding the "prettiness" so frequently found in work of this character.

One of the tragedies of the Exhibition is the fact that Sargeant Jagger finished his work in the prime of life; and the addition of the word "late" to his name brings forcibly to the mind of the critic the fact that his powerful imagination will no longer produce works of outstanding merit in the Academy. He is represented this year by three works of vastly differing quality and attributes. The one, a relief of a War subject, "No Man's Land," is one of those tragic representations of the atmosphere and incident of war which Jagger produced so powerfully in his war memorials. These war subjects constantly suggest that the tragedy and massacre, the awful incidents of the trenches, were deeply impressed upon Jagger's mind, and he must have carried away a mental picture of his experiences in France which, coloured as it was by his vivid imagination, could have been equalled by few men who went through the carnage of 1914-1918.

His sketch of the "Driver" on the Royal Artillery Memorial in Hyde Park is another example of his power in handling war clothing and war weapons, and is an effective example of his skill and imagination in handling these subjects. This figure fully equals the other great figures of a similar kind which have come from his hands and remain as a lasting memorial of his work. It is surprising, therefore, to discover such extreme banality in the sketch model of the monument to H.M. the King for New Delhi. All power and expression have disappeared from the silhouette, all effectiveness from the detail, all shape from the monument. It is impossible to conceive, if this work were executed, that it would have any value in impressing Delhi or any other place with the power of the British sculptor or any suggestion of British imagination.

There are a large number of busts in this year's Academy, varying in quality. Amongst them, David Evans's bust in marble of "Mrs. T. Monnington" must have a high place. He has given to the sitter a depth, a serenity, a dignity and a power of character which are most valuable qualities, simple planes being used in securing this effect.

"Thought," in bronze, by Edward H. Lacey, is very imaginatively handled, and conveys the quality of the title in a very beautiful manner. The technique of the rough-surface bronze is very interesting. It is finished in a fine blue-green colour which adds to its interest.

Of the remaining busts, mention should be made of "The Rev. Canon S. A. Alexander," by Reid Dick; "Baron Von Hadeln-Hudson," by Alexandra S. Balaceano; and "Ex-Provost John Birnie," by Gladys Barron.

Gilbert Bayes exhibits two fine panels for the Commercial Bank of Scotland, which again indicate his power to design magnificent decoration to fit given spaces. These panels have very high qualities of detail and mass.

It is disappointing to find good sculpture of the type indicated by Gilbert Ledward on the doors of a room at Eltham Court, allied to poor panelling design and door treatment. The detail is fussy, small in conception and unpleasant in execution, and in no way helps the sculpture to become an important work of art.

A few works in the other galleries merit attention, notably slate carving, by Eric Doudney; "The Old Beggar," by Benno Elkan; and "St. Francis of Assisi," by William Ohly. On the whole, the sculpture of 1935 does not reach the level of 1934.

Middlesex Guildhall Extensions.

The Middlesex County Council Bill for the extension of the Middlesex Guildhall has been withdrawn. The Bill was promoted to obtain powers for the compulsory acquisition of the site at the end of Great George-street adjoining the Canning statue enclosure, and as negotiations in regard to that have now been satisfactorily concluded, compulsory powers are not needed.

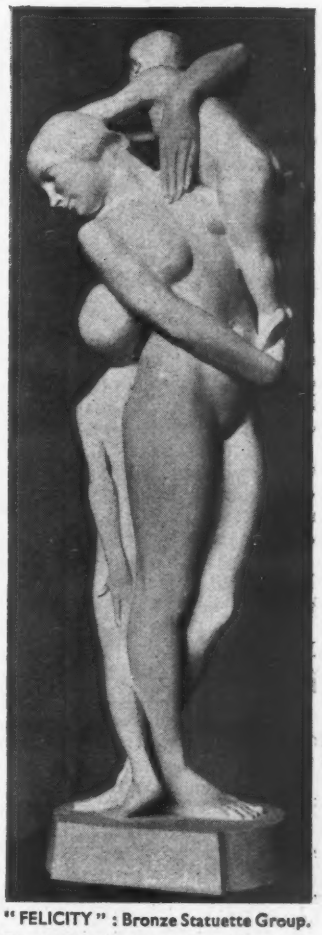
"MADONNA AND CHILD": Burmese Teak, 7 ft. 6 in. high. By DAVID EVANS, A.R.B.S.

"ERDA": Direct Carved Bole. By ARTHUR J. J. AYRES.

"PRAYING GIRL": Statuette, Portland Stone. By WINIFRED LEVERITT.

"ADAM": Bronze, 6 ft, high. By CHARLES WHEELER, A.R.A.

"ST. FRANCIS OF ASSISI": Bronze Statuette. By WILLIAM F. C. OHLY.



"FELICITY": Bronze Statuette Group. By ALEXANDER CARRICK, R.S.A.

SCULPTURE AT THE ROYAL ACADEMY.

(See page 960.)

SOUTH-EASTERN SOCIETY OF ARCHITECTS

THE ARCHITECT'S CONTRIBUTION IN MODERN LIFE.

THE Croydon Chapter of the South-Eastern Society of Architects held its annual meeting on Wednesday, May 15, in the lecture room at the Public Halls in Croydon. An exhibition of work by members and students was on the walls. Major F. W. Rees, L.R.I.B.A., presided. The committee's report, presented to the meeting, stated, among other things, that the membership had increased during the year from 206 to 271. Many members of the Chapter were assisting the Surrey Archæological Society in preparing a record of the domestic architecture of the county.

Major Rees was re-elected Chairman of the Chapter, and in a speech thanking the meeting for the honour he dealt with various matters of interest to architects locally and generally. Speaking of the Whitgift Almshouses—a group of interesting buildings dating from the time of Elizabeth—he said the position was being watched very carefully by a committee of the Chapter, and through them by the R.I.B.A., in conjunction with the Society for the Preservation of Ancient Buildings and the Fine Arts Commission. Another matter of interest was that a Department of Architecture had been established at the local School of Art.

After the business meeting the Mayor of Croydon (Mr. Alderman James Trumble, J.P.) welcomed the members and guests to the evening meeting, which was addressed by Mr. Eric Jarrett, A.R.I.B.A., whose subject was "The Architect's Contribution in Modern Life."

The lecturer compared the subjects that had been discussed in the lectures before the Architectural Association in 1910 with those of the current session. In the earlier year the subjects had been: "The A.A. Excursion to Harrogate," "The Architecture of Bath," "The Architecture of the Incas of Peru," "A Comparison between English and Continental Ironwork," "Filippo Brunelleschi and the Renaissance," "The Life and Work of William Butterfield," "A Mediæval House," "Renaissance Church Architecture of the Sixteenth Century in France," and a discussion on the proposition that "Fine Draughtsmanship Makes Fine Architecture."

The session for 1934-35 had begun with an account of "The A.A. Excursion to Norway," after which had come lectures on "Plastics"—described as the Fourth Material—and "Metal Finishes." Then had followed a discussion on "Reinforced Concrete *v.* Steel in Buildings," and, subsequently, lectures on "Architectural Critics" and "The History and Work of the R.I.B.A." There was another lecture to come, the subject being "The Swimming Pool at Wembley." Comparing the two lists, the lecturer said they showed that between 1910 and to-day architects had become more practically minded. The lectures of 1910 had a distinctly literary and historical bent, but the second list showed that architects were thinking seriously about problems of to-day. They recognised that they must have a good plan and let the elevation grow out of that. But a building was not necessarily architecture because it was fit for its purpose; it only became architecture when it had a certain artistry given to it: but the modern architect had first to "do his job" and then "weld" on to that the artistry which would lift the work out of mere building.

The lecturer followed with a large number of slides on which he commented. Exhibiting one of St. Pancras Station and Hotel, built about 1860, he said the elevation did not suggest one building, but a street. It would have been better if the magnificent roof which covered the station had been brought forward and displayed instead of being concealed by masses of Gothic ornament which had nothing to do with a railway station. The adjoining building at King's Cross was much better, for its two great arches expressed the roofs of the terminus which had covered the arrival and departure platforms. King's Cross was expressive architecture, whereas St. Pancras was a romantic screen.

The lecturer then showed a series of slides illustrating the great railway station at Stuttgart. It was, he said, very easy to get into this station, and when you were in it you found it very easy to get into your train. Your baggage appeared from nowhere: a study of the plan showed that this was no miracle, but the baggage was brought to the appropriate platform through an underground passage. There was no Gothic ornament. There was a clock tower because a clock on a station was a necessity, and the opportunity was taken to place a restaurant on top of it, from which a beautiful view was obtained over the town.

Another railway station illustrated was Enfield West, on the Piccadilly line. The lecturer called attention to the provision that had been made for the display of posters. Here, he said, was a lesson for the designers of cinemas. The architect knew, in such a case, that any façade he erected would be covered with advertising matter and, that being so, it was best to provide plain surfaces where advertisements could be shown. He might, perhaps, persuade the proprietors of the cinema to allow him to collaborate in the design of the advertisements—"Neon" lights could be a good decoration—but when a fine façade was covered with something the architect had never intended to be there, the two were constantly at war, and the building was ruined.

Another slide showed a chocolate factory at Rotterdam. There was nothing in this building, said the lecturer, that was not functional, but there was a certain artistry in it. On certain days of the week the factory was lit up as an advertisement; the lower stories with ordinary electric lighting, while daylight lamps were used in the uppermost one. A beautiful effect was thereby produced.

A slide illustrated some silos at Cardiff, by Dr. Faber. This building had, said the lecturer, a great deal more to say for itself than one studded all over with columns and things that nobody wanted. The *Daily Express* building he considered most interesting, but verging on a "stunt." Such a building could not have been erected twenty-five years ago. The architect was perfectly justified in covering his reinforced concrete with glass or any other material, for reinforced concrete was not itself a pleasing thing to look at. But what would happen to the glass in this case was as yet a moot point. It was strong and would not break, but there was a question whether a sufficiently tight joint could be made between the glass and the stainless steel frame into which it was fitted. Another slide illustrated an office block in Oslo, showing the design possibilities of mushroom construction.

Other slides illustrated churches, concert houses, baths and other buildings erected recently, and the last two compared the fearful monotony of a sea of roofs in East Ham with the imagination and orderly lay-out of Welwyn Garden City. In these days, concluded the lecturer, an architect did not say, "I am going to build a house in the style of the sixteenth century," or "a church in the style of the thirteenth century"; but he designed a building to fulfil its function as a house, church, factory, or whatever it might be, and adapted his design accordingly.

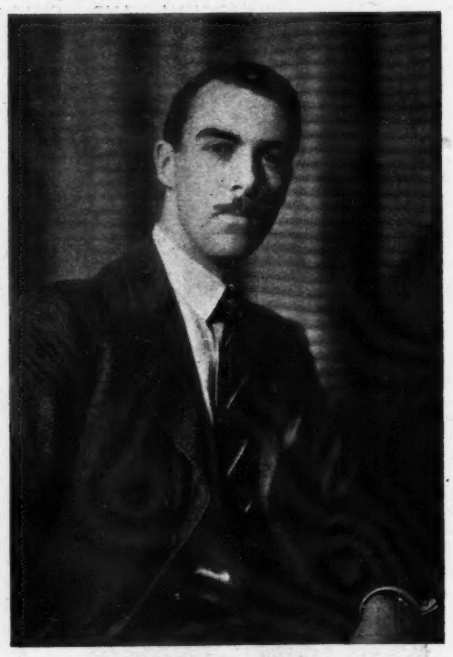
Mr. E. R. North, who moved a vote of thanks to the lecturer, said one was led to believe that, from the artistic point of view at any rate, the Russians were far in advance; but apparently Western Europe had caught up whatever advantage Russia had had in that direction.

The lecturer replied that he doubted if the Russian contribution to architecture was so valuable as hed been suggested. A great many American and German architects had been employed, and he was not sure the Russians had evolved a type of architecture out of their own inner consciousness so much as being adept at taking up the ideas of other people.

The vote of thanks was heartily accorded.

COMMONWEALTH FUND FELLOWSHIP AWARD

THE only Commonwealth Fund Fellowship to be given for architecture this year has been awarded to Mr. Frank Hudson Littler, a graduate of the Liverpool School of Architecture. The approximate annual value of a Fellowship is 3,000 dollars. Since the Fellowships have been established, graduates of the Liverpool School of Architecture have been successful in gaining awards on five occasions—a record, we are informed, not approached by any other school of architecture in the Empire. Mr. Littler received his general education at Radley College before going to the Liverpool School. During his course in the school he was awarded the Anthony Minoprio Prize, and was *proxime accessit* in the competitions for the Honan Travelling Scholarship and the



MR. F. H. LITTLER. B.Arch. (L'pool), A.R.I.B.A.

Awarded the Commonwealth Fund Fellowship for Architecture.

H. W. Williams Travelling Scholarship administered by the Liverpool Architectural Society. He graduated in 1932 as Bachelor of Architecture with first-class honours. Since he left the school he has been working with the London firm of architects and aeronautical consultants, Messrs. Norman, Muntz and Dawbarn, chiefly on the planning and equipment of airports. The subject which Mr. Littler will be studying in the United States for the next two years will be airport design. His investigations will cover a wide range, including marine as well as land airports, their location, means of access, planning and technical equipment. He will be working principally at the Massachusetts Institute of Technology and Harvard University.

LAW REPORT

COURT OF APPEAL.

Before the MASTER OF THE ROLLS and LORDS JUSTICES ROMER and MAUGHAM.

THE APPEAL OF THE BUILDERS IN THE MAYFAIR ANCIENT LIGHTS ACTION.

Fishenden v. Higgs and Hill, Ltd.

The hearing was continued this week of the appeal of Messrs. Higgs and Hill, Ltd., the builders and contractors, of Crown Works, South Lambeth-road, S.E., from the judgment of Mr. Justice Crossman in the Chancery Division, holding that the plaintiff, Mr. Reginald Charles Fishenden, was entitled to an injunction restraining the appellants from erecting a block of flats on the site of Chesterfield House in Chesterfield-gardens, Mayfair, so as to cause Mr. Fishenden, the lessee of No. 8, Chesterfield-gardens, annoyance and damage by obstructing his ancient lights. The proceedings at the trial were reported in the issue of *The Builder* for April 12 and 19, and in the Court of Appeal for May 17.

Mr. Wilfrid Greene, K.C., and Mr. Andrew Clark appeared for the appellants; and Mr. Gavin Simonds, K.C., and Mr. Thomas Cunliffe for the respondent, Mr. Fishenden.

Mr. Wilfrid Greene, in continuing his address for the appellants, in reply to Lord Justice Romer, who asked what diminution of light would be caused to the plaintiff's ground floor window, No. 4, by the plaintiff's projecting wing, said that it would make practically no difference to the light to that window. Counsel then continued the reading of the evidence given at the trial, during which Lord Justice Romer asked when Chesterfield-gardens were built.

Mr. Greene: "In 1878. The architecture looks to be of that period. The freehold was bought in 1875, and the building lease was granted in 1878, so that the houses must have been put up between those dates. Chesterfield House was built between 1740 and 1760."

The Master of the Rolls: "It was built by the well-known Lord Chesterfield. You read about it in 18th century letters."

Mr. Greene said that Chesterfield-gardens were built on part of the gardens of Chesterfield House. Continuing, he said the right of the owner of ancient lights was to prevent his light being obstructed so as to bring him below the reasonable standard of light of the locality.

Lord Justice Romer: "The reasonable standard of those who have ancient lights—not the standard of the locality."

Mr. Greene argued that the locality had to be taken into account.

The Master of the Rolls said that in compensation cases factors relating to neighbouring buildings and streets were always rejected. Of course, counsel could say that this property was in Mayfair and not in Bermondsey.

Mr. Greene: "It is a high-class residential district in the West End of London, and you are bound to examine the locality because the House of Lords have said so."

Lord Justice Maugham: "As between Mayfair and the Commercial-road there is this curious result. The Commercial-road is wide, and the houses are low. So you say that they are entitled to a higher standard in the East End than in this residential area?"

Mr. Greene said he certainly did not.

Lord Justice Maugham said there was a slum in London where the houses had more light than was enjoyed in Mayfair.

Mr. Greene submitted that the plaintiff could not establish that the diminution of his light amounted to an actionable nuisance unless he showed that the light left to him according to the reasonable standard of the locality would be insufficient. If one inquired what were the amenities in the matter of light of the average inhabitants of Mayfair you could not spin that out of your inner consciousness. Not only had the plaintiff to prove that he enjoyed less light than before and that on the basis of his fifty per cent. "grumble point" he was suffering from inadequate light, he had to show what in this residential quarter of London was the sort of light a reasonable person got.

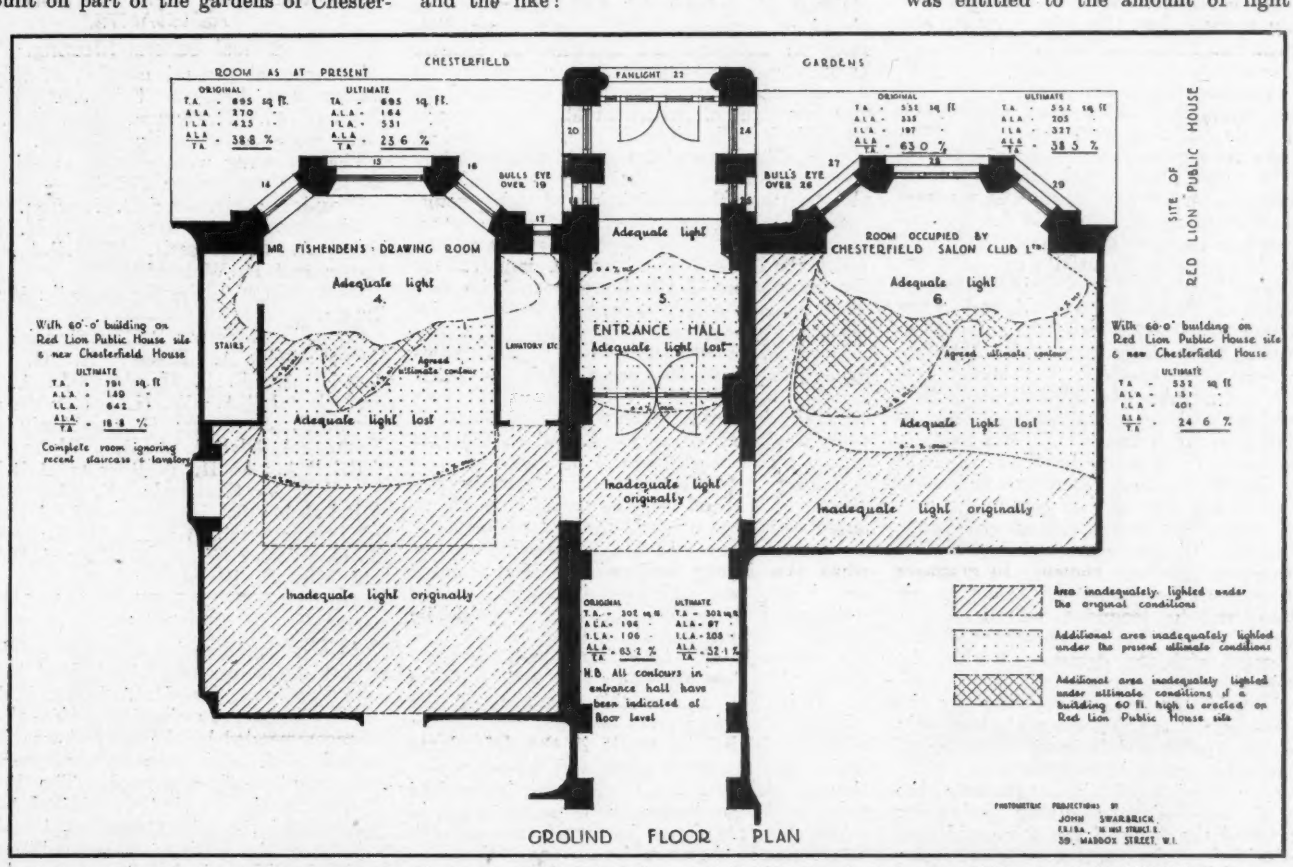
The Master of the Rolls said that the property was in Mayfair and in a high-class residential neighbourhood; but he asked why they should have to estimate the locality with reference to Queen-street, Curzon-street, and the like?

Mr. Greene said it was essential to take into account the fact that the only light which the plaintiff was entitled to by virtue of his easement was so much light as would not fall below the ordinary reasonable standard of persons who lived in that particular locality. The appellants had been told that some unspecified portion of the building constituted a nuisance, and had been ordered to pull down that unspecified part. The position of a builder in London, said counsel, was a hopeless one. They did not know what to do. If the decision of the House of Lords in the "Colls case" had gone the other way, there would have had to be legislation, because it would have stopped building in London. The unfortunate builder who got an injunction against him did not know where he was. If it was to be held that Chesterfield-gardens was entitled to the same standard of light which it formerly enjoyed, then no building could ever be erected there higher than the existing buildings. The learned counsel submitted that Mr. Fishenden had not established that there was a nuisance relative to the locality and to the ordinary reasonable person who desired to live there.

Mr. Greene cited a number of legal decisions affecting the law of ancient lights, which, he submitted, supported his contention that Mr. Justice Crossman's judgment granting the injunction should be set aside. He said it was not an actionable nuisance because the plaintiff, by reason of the defendants' building, got less light than he enjoyed before; but the question was, did the building complained of so diminish the light and air coming to the plaintiff's premises as to make them less comfortable and less fit for occupation?

Referring to the injunction granted in the present case, Mr. Greene said the defendants were in the unfortunate position of having no information from anybody as to whether, in order to comply with the terms of the injunction, they had to pull down one story or two stories, or what.

Lord Justice Romer, during counsel's argument, said that for himself, with regard to the question of locality, he thought a man was entitled to the amount of light which


CHESTERFIELD GARDENS
ROOM AS AT PRESENT
ORIGINAL
T.A. - 695 sq. ft.
A.L.A. - 370 -
I.L.A. - 423 -
A.L.A./T.A. - 38·8 %
ULTIMATE
T.A. - 695 sq. ft.
A.L.A. - 164 -
I.L.A. - 531 -
A.L.A./T.A. - 23·6 %
FANLIGHT 22
BULL'S EYE OVER 19
BULL'S EYE OVER 26
MR. FISHENDENS DRAWING ROOM
Adequate light
4.
Adequate light lost
Agreed ultimate contour
STAIRS
LAVATORY ETC
5.
ENTRANCE HALL
Adequate light lost
Adequate light
ROOM OCCUPIED BY CHESTERFIELD SALON CLUB LTD.
6.
Adequate light
Agreed ultimate contour
Adequate light lost
Inadequate light originally
SITE OF RED LION PUBLIC HOUSE
With 60'-0" building on Red Lion Public House site & new Chesterfield House
ULTIMATE
T.A. - 791 sq. ft.
A.L.A. - 149 -
I.L.A. - 642 -
A.L.A./T.A. - 18·8 %
Complete room ignoring recent staircase & lavatory
With 60-0" building on Red Lion Public House site & new Chesterfield House
ULTIMATE
T.A. - 552 sq. ft.
A.L.A. - 151 -
I.L.A. - 401 -
A.L.A./T.A. - 24·6 %
ORIGINAL
T.A. - 391 sq. ft.
A.L.A. - 196 -
I.L.A. - 106 -
A.L.A./T.A. - 63·2 %
ULTIMATE
T.A. - 302 sq. ft.
A.L.A. - 97 -
I.L.A. - 205 -
A.L.A./T.A. - 32·1 %
N.B. All contours in entrance hall have been indicated at floor level
Area inadequately lighted under the original conditions
Additional area inadequately lighted under the present ultimate conditions
Additional area inadequately lighted under ultimate conditions if a building 60 ft. high is erected on Red Lion Public House site
PHOTOMETRIC PROJECTIONS BY JOHN SWARBRICK F.R.I.B.A., 16 HILL STREET, E. 39, MADDOX STREET, W.1.
GROUND FLOOR PLAN

Copy of Daylight Plan, J.S. 1B., prepared by Mr. John Swarbrick, F.R.I.B.A., on behalf of the Plaintiff, in the case of Fishenden v. Higgs & Hill, Ltd.

[NOTE: The photometric contours were agreed in the course of the hearing. This is one of the drawings upon which the judgments in the Court of First Instance and in the Court of Appeal were based. It is of special interest because it indicates what the Courts held to be an actionable infringement of light. It should also be observed that this loss of light would, it is contended, result from an obstruction subtending an angle of less than 45 deg. from the ground-floor window sills, for the most part.]

would enable him to carry on his business beneficially, and he did not see what locality had to do with it.

Mr. Greene said that before the case got into court the only objection to what the defendants were doing was as to their projecting wing, and it was not until they got the statement of claim that they knew that objection was taken about their main building.

Mr. Greene argued that Mr. Justice Crossman had decided the case against the defendants on the wrong principle. The entire case for the plaintiff was based on Mr. John Swarbrick's daylight plans, and Mr. Justice Crossman had given his judgment on that basis. He contended that the injunction granted by the judge should not be allowed to stand and that the appeal should be allowed.

At the close of the appellant's case, after a consultation between their Lordships, the Master of the Rolls, addressing Mr. Gavin Simonds, said the court wanted to hear him on the appropriate remedy to be granted the plaintiff, and whether it was a case in which the plaintiff was entitled to an injunction in the general terms granted to him, or was it a case in which the rights of the plaintiff might be met by damages? The court did not want to hear him on the main point.

Mr. Simonds contended that the court ought not to interfere with the discretion properly exercised by Mr. Justice Crossman.

Continuing his address for the respondent, Mr. Gavin Simonds said their Lordships having already held that by reason of what had occurred Mr. Fishenden had suffered an actionable nuisance, the question which remained to be argued was what relief he was entitled to, viz., an injunction or damages. He submitted that Mr. Fishenden's common law rights had been infringed by the defendants in respect of four rooms, the damage to him being substantial, and in the circumstances very difficult to estimate in money. In "Shelfer's Case," in the House of Lords, it was laid down that the plaintiff was entitled to an injunction to prevent the invasion of his common law rights, and he contended that Mr. Fishenden was so entitled in the present case. He contended that it could not be seriously argued that the injury which Mr. Fishenden had sustained was small and could fairly be compensated for in awarding him small damages. Here the position was that the defendants had taken their course and erected their building with their eyes open. There was not a tittle of evidence to show that when the writ in the action was issued the defendants had made any substantial progress with their building, and they did not say and could not say that when the writ was issued their building was substantially up. The defendants had proceeded with their building at their own risk after being warned, and in the circumstances he submitted Mr. Fishenden was entitled to the injunction which Mr. Justice Crossman had granted. "A man," continued Mr. Simonds, "is entitled to say that he would rather have a sufficiency of light in his home than much fine gold." If a man, in spite of warning, goes on building, it could not be said that it was oppressive to him to grant an injunction against him. In conclusion, counsel contended that no ground for disturbing the injunction granted by Mr. Justice Crossman had been shown. In granting the injunction, the judge had exercised his discretion, and he (counsel) submitted that that Court in all the circumstances should not interfere with the decision at which he had arrived.

Mr. Wilfrid Greene, in replying for the appellants, submitted that the plaintiff was in all the circumstances left in the position of any reasonable person in Mayfair.

At the conclusion of the arguments the Master of the Rolls, in giving judgment, having stated the facts of the case, said that the plaintiff had the right to ancient lights in his premises, of which there was 30 years of his lease unexpired, at a rental of £1,500 a year. Mr. Justice Crossman had granted the plaintiff an injunction mandatory in form which did not condescend into actual particulars requiring the defendants to remove so much of their building as would interfere or constitute a nuisance or obstruction to the plaintiff's rights of light. The plaintiff's right to ancient lights was not disputed, nor was it disputed that there would be some interference by the proposed building to the light which would reach his premises. Mr. Justice Crossman held that it had been proved that the ground floor and basement did suffer, or would suffer, a nuisance by reason of the diminution of light, but with regard to the rooms on the first and second floors had held that no nuisance had been proved or intended. It was important to see what the conduct of the defendants had been. The judge had found that the defendants had acted honestly and, as they thought, within their rights. From the point of view of the defendants it was important that that should be quite clearly stated and definitely appreciated. He and his learned brothers had come to the conclusion that Mr. Justice Crossman was right in holding that there had been, or there was intended to be, an invasion of the plaintiff's rights, and that the building when completed by defendants would cause a nuisance to the plaintiff. There had been a great number of cases decided, but they were all aware that when the decision was given by the House of Lords in the "Colls Case," the problem which must always be raised in those cases was as to whether there was a substantial deprivation of light such as to cause a nuisance or would render the occupation of a house uncomfortable according to the ordinary notions of mankind. It was not enough that the light was less than before. It must be an invasion of the ordinary rights which attached to a plaintiff as the holder of ancient lights. In the present case evidence had been given by experts as to what was called the "grumble point," which it was said was the standard which ought to be conformed to. It was said by the defendants that the Court ought to take into consideration the locality, and that they could not expect in a town crowded with buildings the same access of light as they would expect in more fortunate districts. It was said that in Mayfair there were a great number of streets where there was much less light than would be left to the plaintiff if defendants' building was completed as proposed. He found great difficulty in applying the doctrine of locality in such particularity as that suggested. It was unreasonable to say that because there was less light elsewhere in Mayfair it could be said that the plaintiff had suffered no wrong. The test of locality therefore broke down. He preferred the evidence of the plaintiff that the diminution of light would render his premises less comfortable than before, and put them beyond the margin of which the House of Lords spoke, namely, that the occupation of the house would be rendered uncomfortable according to the ordinary notions of mankind.

It would be unreasonable to treat Chesterfield-gardens on the same basis as other streets in Mayfair. The plaintiff was entitled to a consideration given to the type of house in which he lived, and to the fact that it was in a residential district.

Dealing with the appropriate remedy the Master of the Rolls said he thought the Court ought to incline towards damages rather than to an injunction. It was not possible to say what the injury suffered by the plaintiff would be when estimated in money. The damages which might be given would, he thought, be substantial, and not trivial. On the other hand, defendants had certainly acted with circumspection and with a desire to avoid an unreasonable invasion of the plaintiff's rights. The Court had to consider what would be the result if the defendants had to modify their plans and cut off a portion of their building. On the whole, he had come to the conclusion that there was a case in which damages should be a sufficient remedy. There would therefore be an order that the case should be remitted for the purpose of ascertaining what damages the plaintiff had suffered, and the mandatory injunction would be discharged. With regard to the costs, there would be no order with reference to the costs in the Court below, and the respondent was entitled to have half of his costs of the appeal paid by the defendants. The appeal would be allowed to the extent that there would be a variation of the order made by Mr. Justice Crossman.

The Lords Justices delivered judgments to the same effect.

Their Lordships remitted the case to the Chancery Division for the purpose of the damages due to Mr. Fishenden being ascertained and awarded.

Leave to appeal by the defendants to the House of Lords was refused.

SOCIETIES AND INSTITUTIONS

R.I.B.A.

Election of Members.

At a Council meeting of the R.I.B.A., held on Monday, May 13, the following members were elected :—

AS HON. CORRESPONDING MEMBER.
Emile Maigrot (Paris).

AS FELLOWS.

A. E. Batzer, F.S.I. (London).
N. F. C. Cachemaille-Day (London).
A. Hale (Birmingham).
G. N. Hill (Manchester).
R. G. Lovell, A.T.P.I. (Eastbourne).
J. G. McBeath (Sale, Cheshire).
D. S. Petrovitch, A.A. Diploma (Singapore).
R. B. Craze (London).

AS ASSOCIATES.

A. F. G. Barnard (A.A.) (London).
J. Bland, B.Arch.McGill (Schl of Arch., McGill Univ., Montreal) (London).
D. M. Cowin (Lvrpl. Sch. of Arch., Univ. of Lvrpl). (Johannesburg).
G. M. J. Geers (Johannesburg).
L. F. Hurley (Welsh Sch. of Arch, Technical Coll., Cardiff) (Bangor, N. Wales).
L. E. Knight (Sch. of Arch., Robert Gordon's Coll., Aberdeen) (Woking, Surrey).
G. G. Laidler (A.A.) (Jordans, Bucks.).
A. C. Light (Bartlett Sch. of Arch., Univ. of London) (Cardiff).
B. V. Martin (A.A.) (Singapore).
J. Robertson (Sch. of Arch., Edinburgh Coll. of Art) (Edinburgh).
B. A. Simpson (Johannesburg).

AS LICENTIATES.

K. R. Brady (Heaton Moor, Cheshire).
W. H. Clough (Newcastle-upon-Tyne).
C.. J. Collins (London).
R H. R. Davis (London).
C. Fernie (Solihull, Warwickshire).
L. H. Fewster (London).
A. R. Walsingham (Manchester).
E. G. Williams (Bangor).

ASSOCIATION OF ARCHITECTS, SURVEYORS AND TECHNICAL ASSISTANTS.

Annual General Meeting.

THE annual general meeting of this Association was held on Friday, April 26, at Caxton Hall. The annual report and balance-sheet were unanimously adopted.

The following were elected as officers and council for the session 1935-36 :—

President : Mr. Ivor D. Newton.

Vice-Presidents : Messrs. C. H. Rattenberry, A. R. Hassell, L.R.I.B.A., E. S. Brown and P. Whitehead.

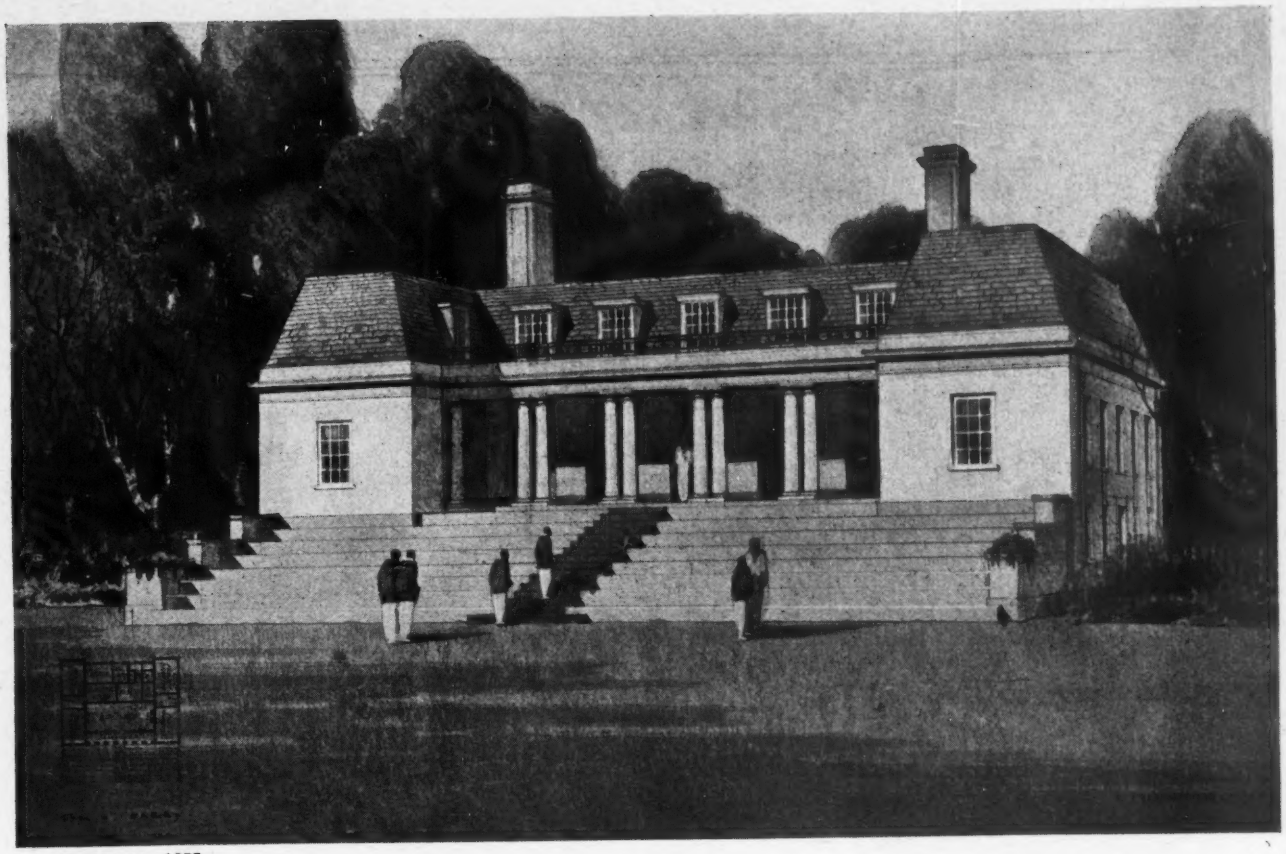
Hon. Editor "The Keystone" : Mr. E. S. Brown.

Council : Messrs. R. Braybrook; R. E. Cooper; G. A. Ensor; R. G. Forbes, A.R.I.B.A.; F. P. Harrison; L. A. F. Ireland, L.R.I.B.A.; W. H. Laithwaite; H. S. King; Z. Jacobson; G. C. Manly; V. L. Nash, A.R.I.B.A.; R. Wynn Owen, F.R.I.B.A.; L. H. B. Roberts, A.R.I.B.A.; J. H. C. Shatford; F. J. Maynard, A.R.I.B.A.; R. L. Townsend, A.R.I.B.A.; W. L. Vinycomb, A.R.I.B.A.; E. O. Wilson; G. G. Wolfe; W. E. Woolley, L.R.I.B.A.; and Miss D. Rouse.

ROYAL INSTITUTE OF THE ARCHITECTS OF IRELAND.

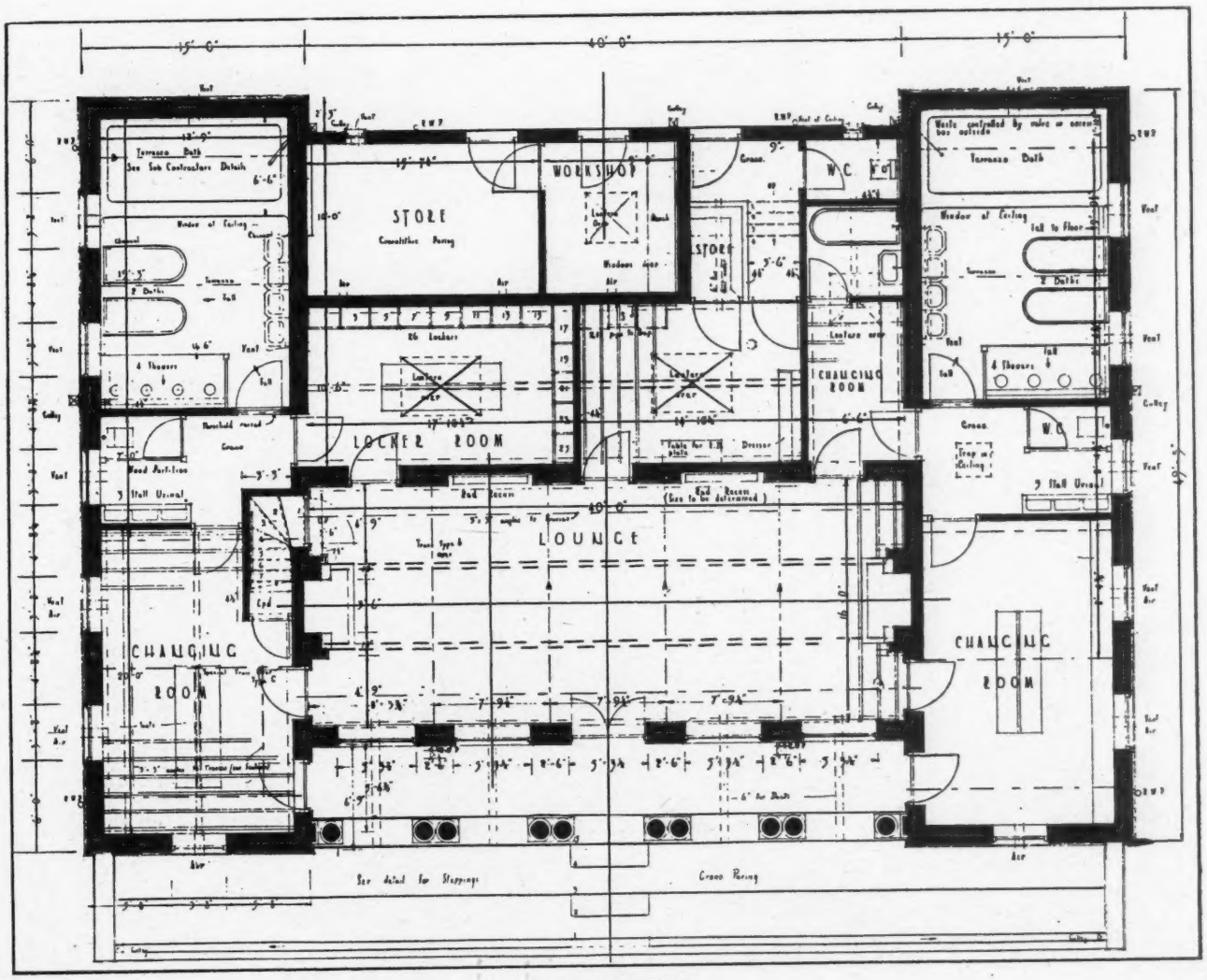
At a general meeting of the Royal Institute of the Architects of Ireland, held in Dublin (the President, Mr. H. Allberry, F.R.I.A.I., in the chair), the code of professional conduct as recommended by the Council was fully discussed, and, with some minor amendments, was unanimously approved. The President, welcoming Mr. F. McArdle, M.R.I.A.I., Belfast, stated that the Council had under consideration the various matters discussed by representatives of the Institute and of the Royal Society of Ulster Architects last year, and hoped that before long many of the suggestions would be mutually adopted. He asked Mr. McArdle to convey the good wishes of the Institute to their colleagues in the North.

[Other reports are unavoidably held over.]



R.A. Exhibition, 1935.

PERSPECTIVE VIEW.



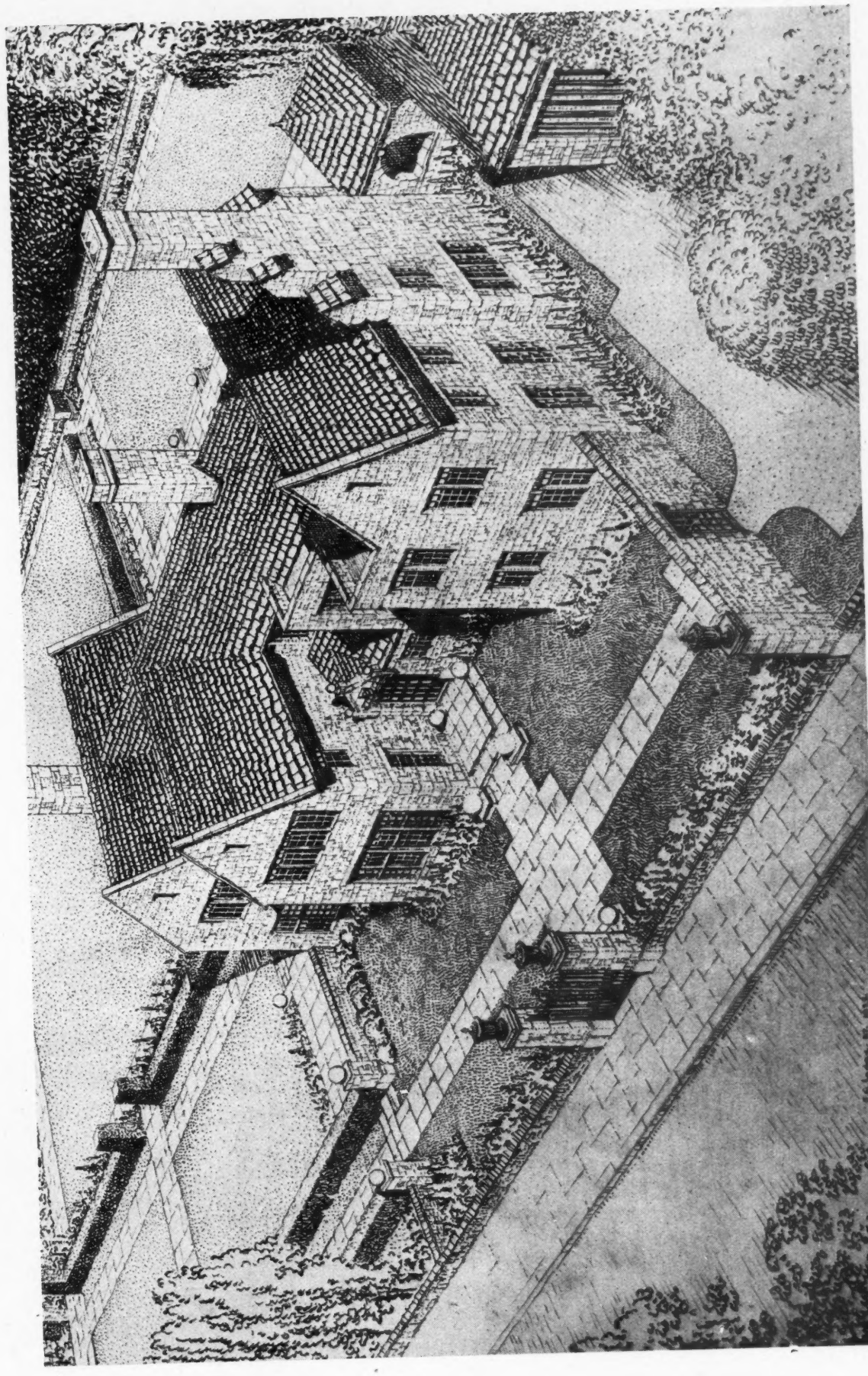
GROUND-FLOOR PLAN.

NEW SPORTS PAVILION, STOWE SCHOOL, BUCKINGHAM.

MR. R. FIELDING DODD, F.R.I.B.A., Architect.

(See page 980.)

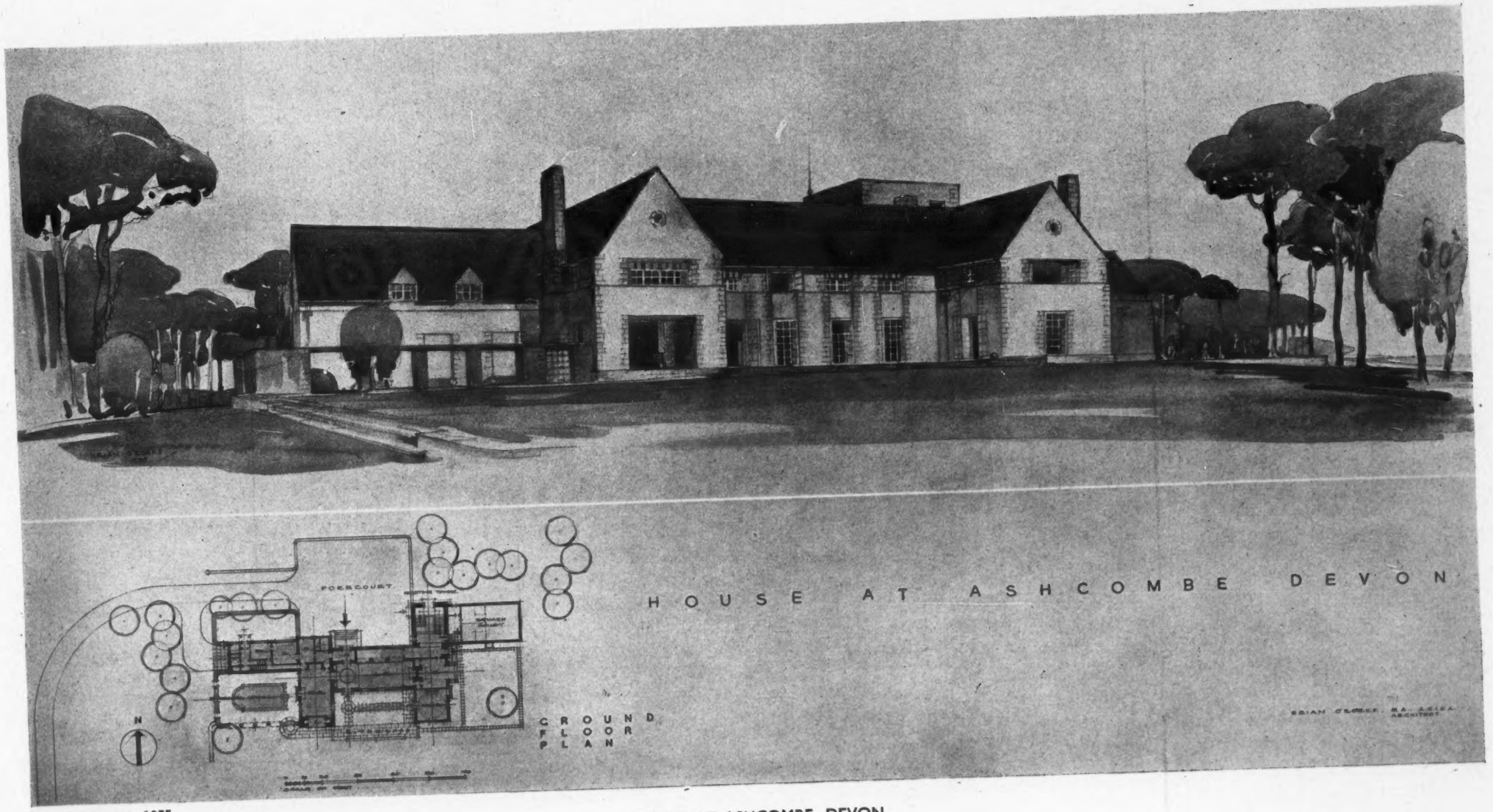
LIBRARY
OF THE
UNIVERSITY OF ILLINOIS



NEW PRINCIPAL'S HOUSE, LADIES' COLLEGE, CHELTENHAM.
MR. STANLEY HAMP, F.R.I.B.A. (Messrs. COLLCUTT and HAMP), Architect.
(See page 980.)

R.A. Exhibition, 1935.

LIBRARY
OF THE
UNIVERSITY OF ILLINOIS



R.A. Exhibition, 1935.

HOUSE AT ASHCOMBE, DEVON.

MR. BRIAN O'RORKE, A.R.I.B.A., Architect.

(See page 980.)

LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

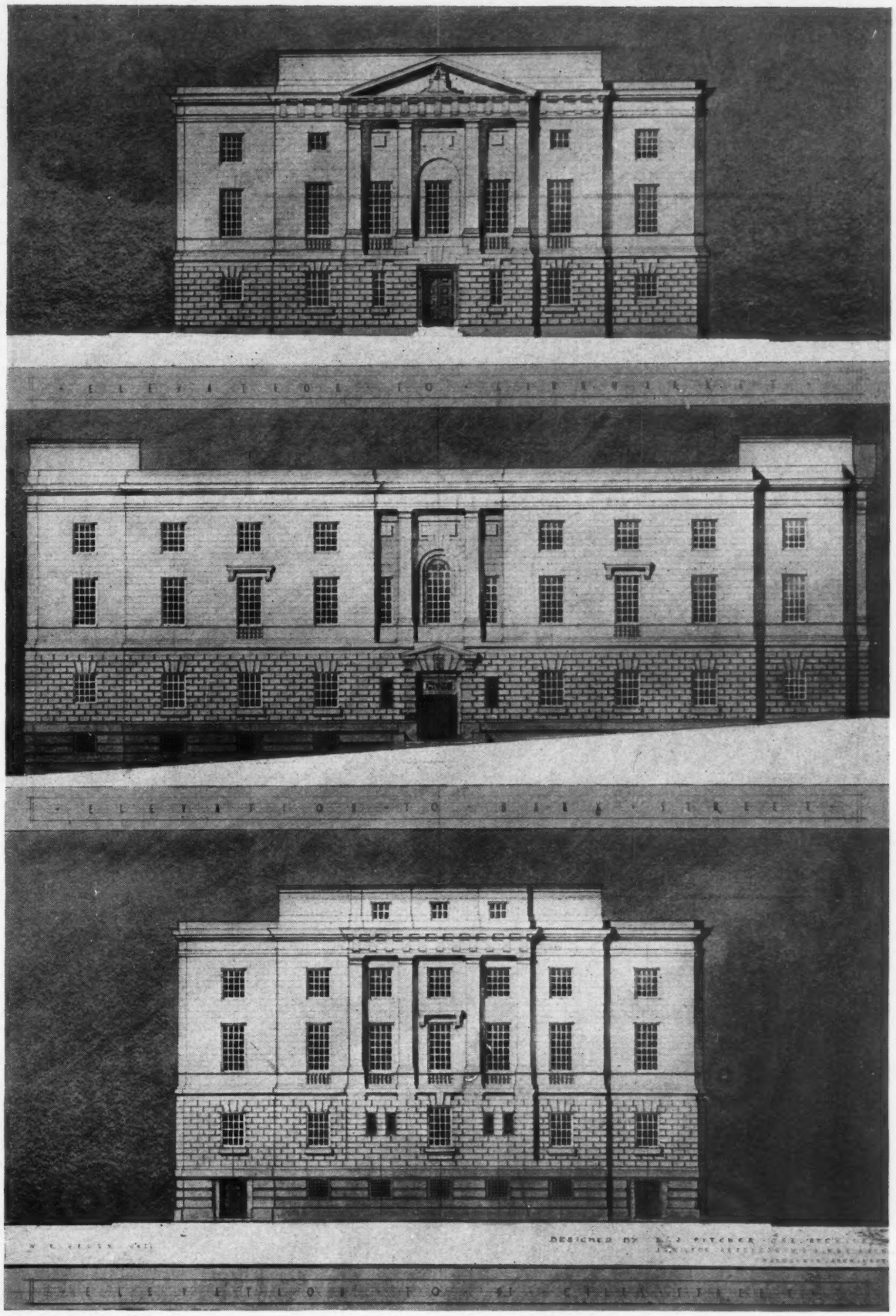
R.A. Exhibition, 1935.

"MILLBROOKE COURT," UPPER RICHMOND ROAD, PUTNEY. S.W.

MR. W. J. KIEFFER, Architect.

(See page 980.)

LIBRARY
OF THE
UNIVERSITY OF ILLINOIS



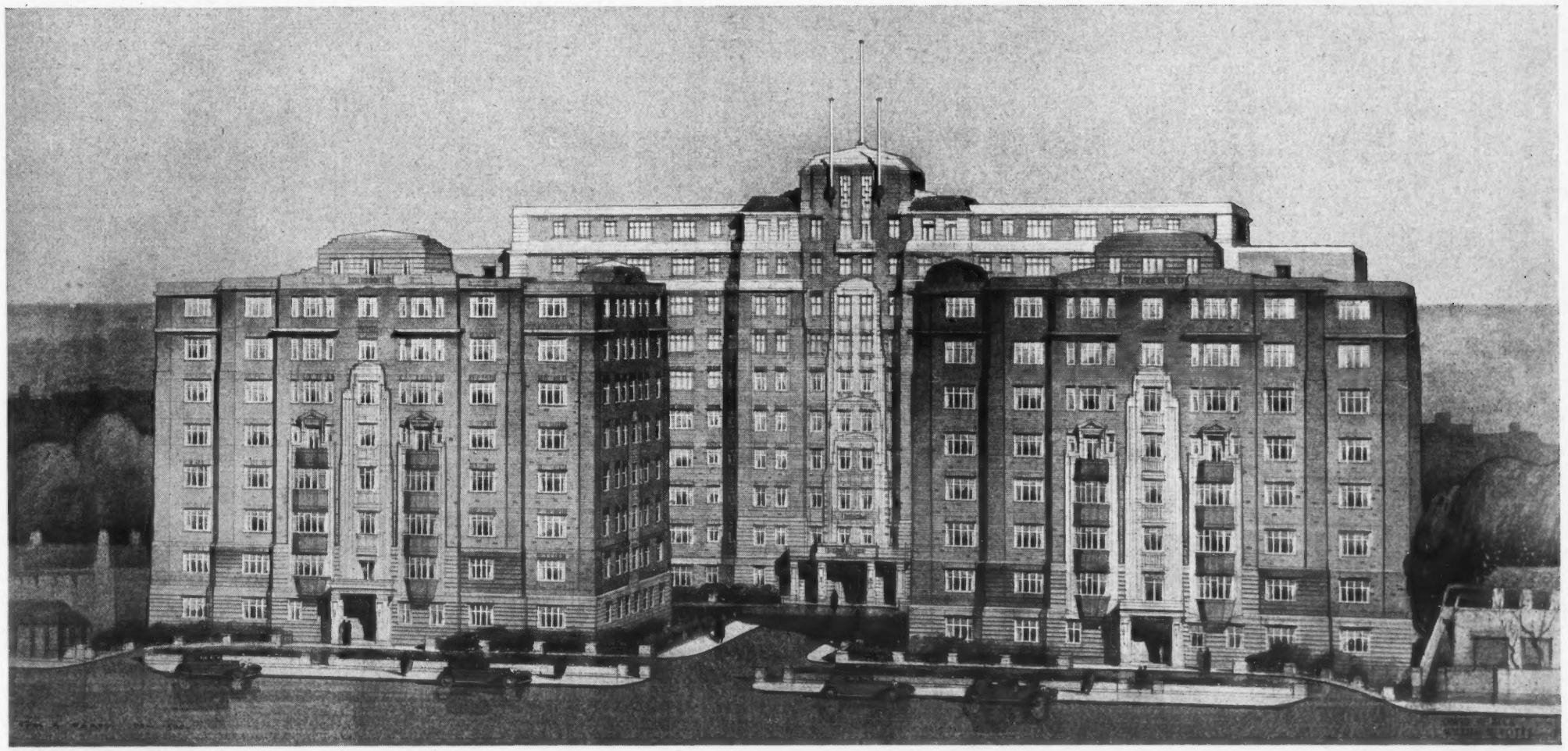
R.A. Exhibition, 1935.

NEW SHERIFF COURT HOUSE, EDINBURGH.

MR. ALBERT J. PITCHER, H.M. Office of Works, Architect.

(See page 980.)

LIBRARY
OF THE
UNIVERSITY OF ILLINÓIS



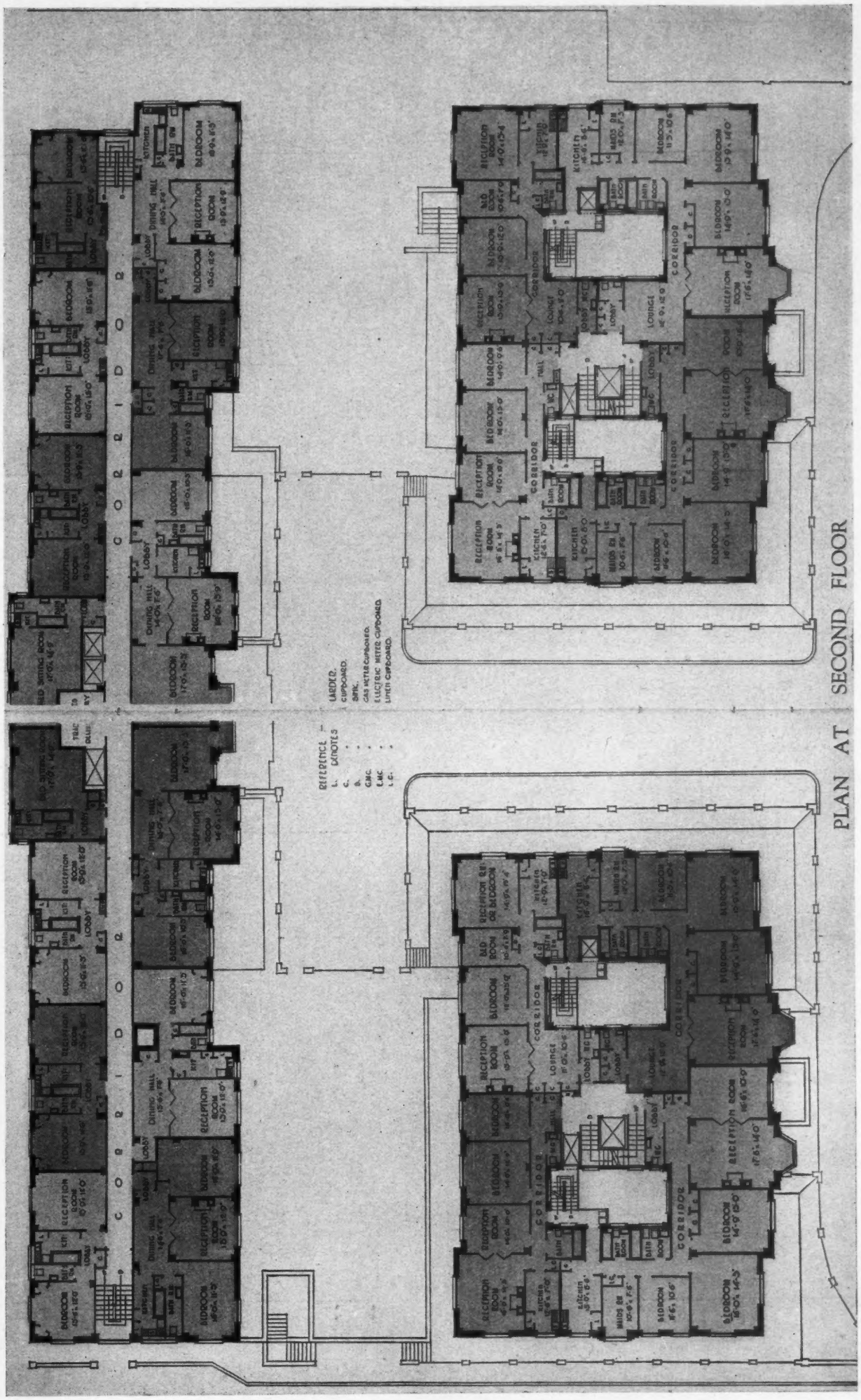
R.A. Exhibition, 1935.

"GROVE HALL COURT," ST. JOHN'S WOOD, N.W.

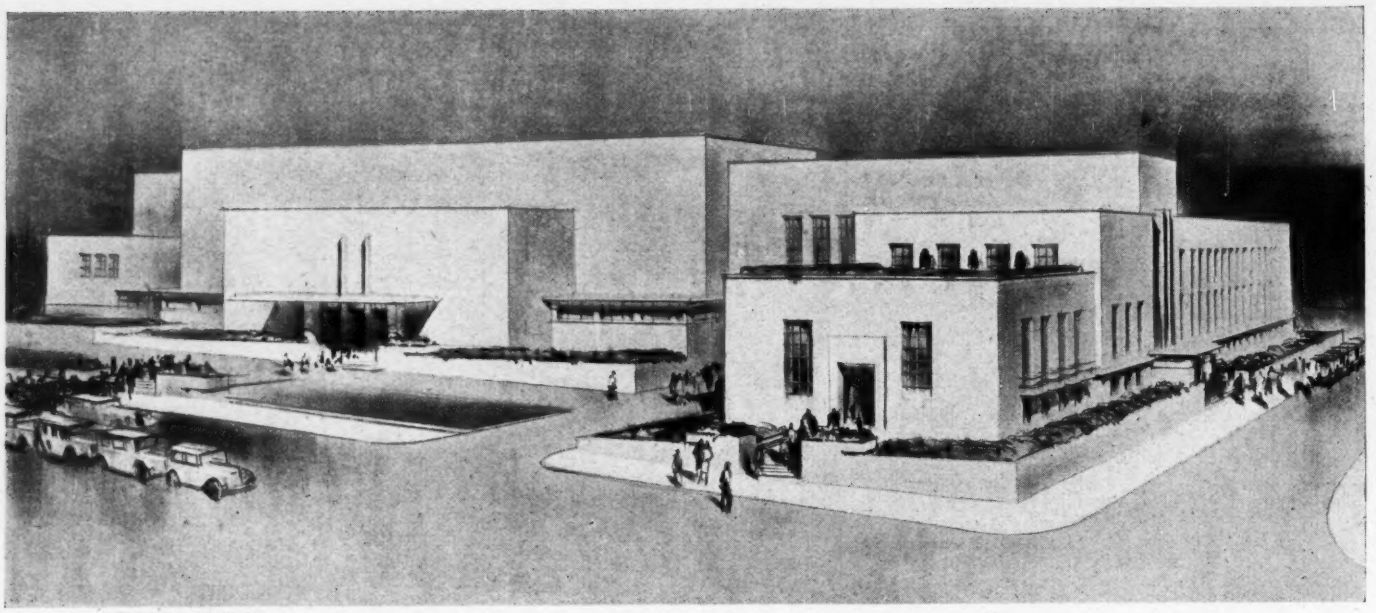
MESSRS. DAVID W. BECK AND WILLIAM N. POTTS, A.I.A.A., Architects.

(See page 980.)

LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

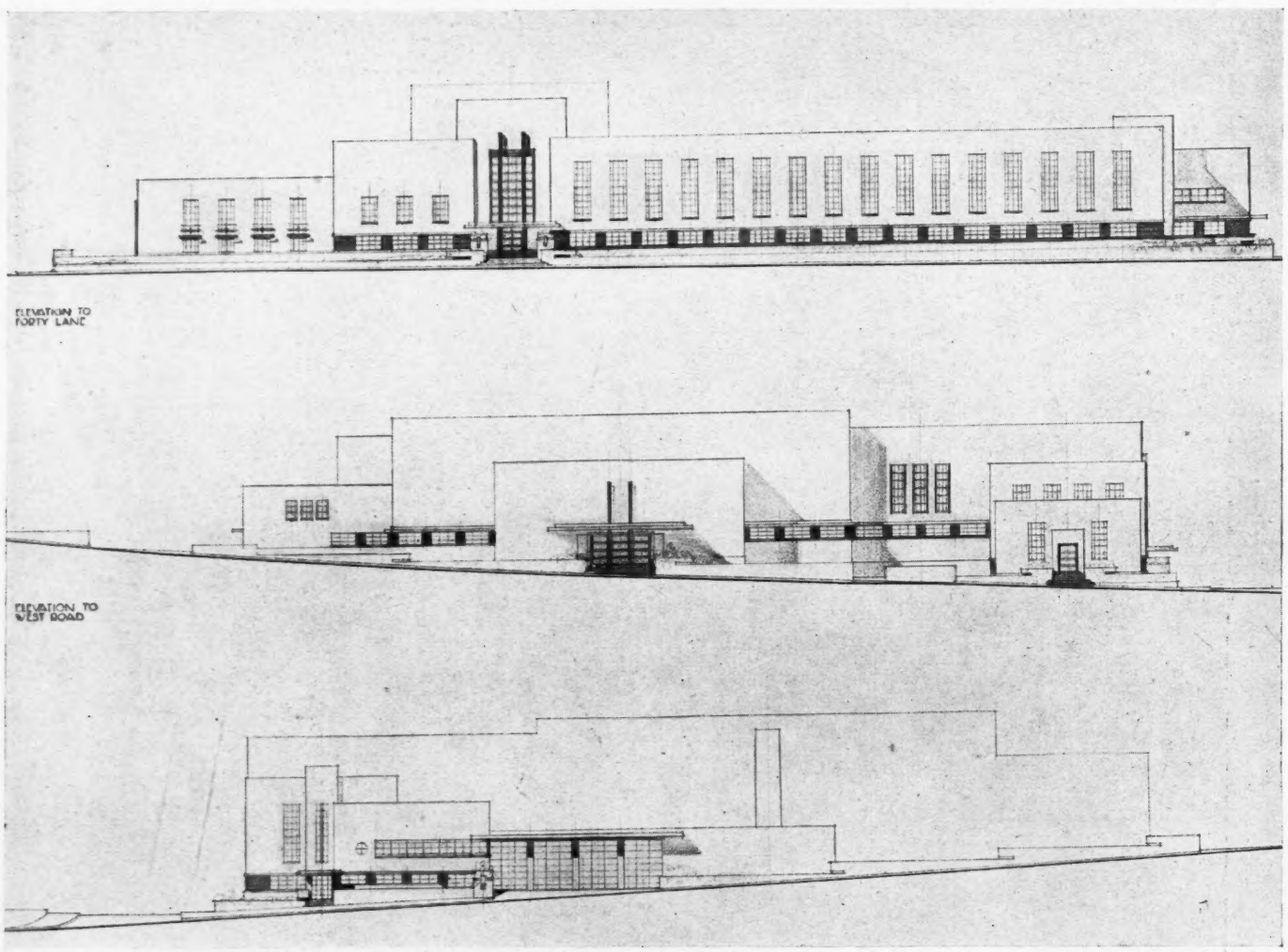


"GROVE HALL COURT," ST. JOHN'S WOOD, N.W.
MESSRS. DAVID W. BECK and WILLIAM N. POTTS, A.I.A.A., Architects.
(See page 980.)



Drawn by Mr. William Suddaby.

PERSPECTIVE VIEW.

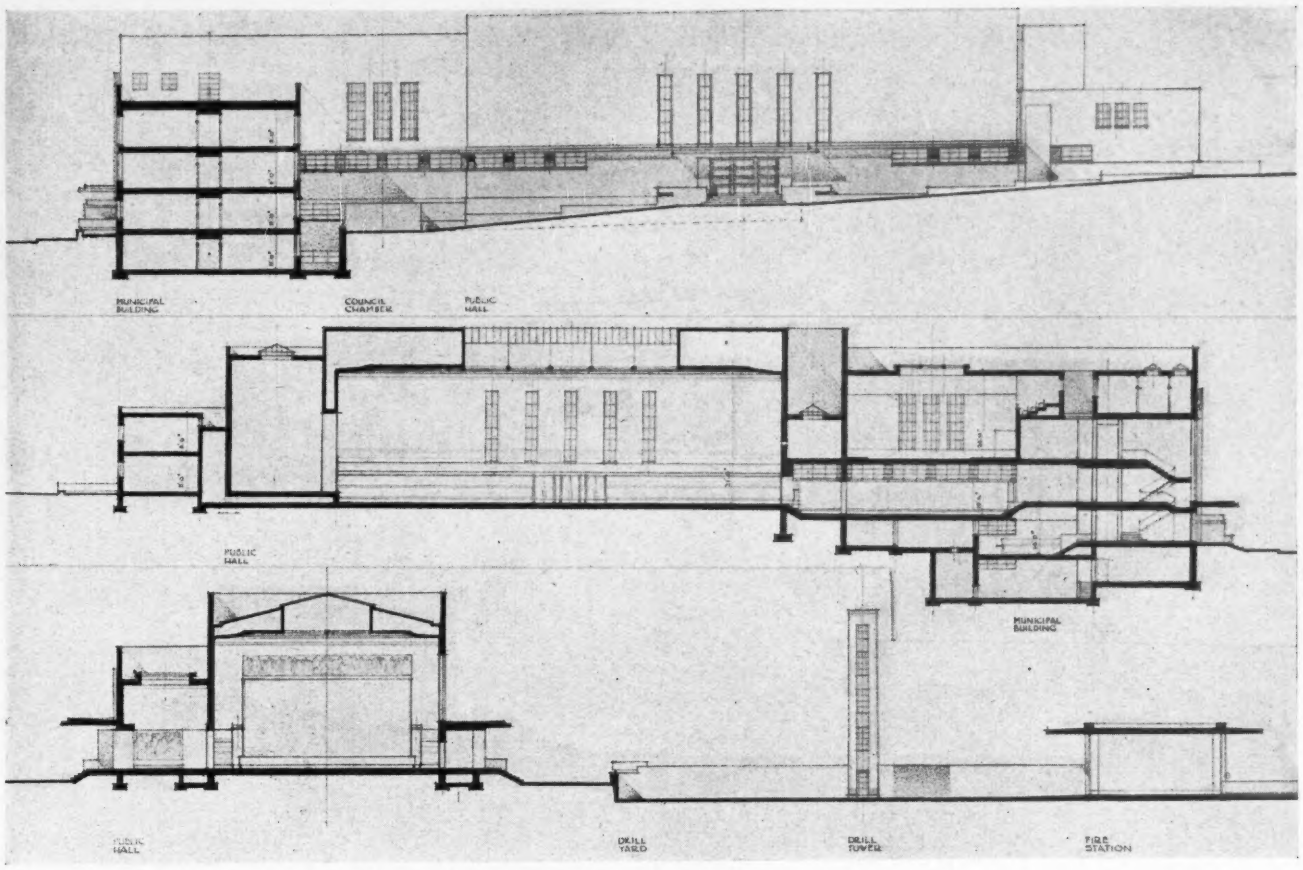


ELEVATIONS.

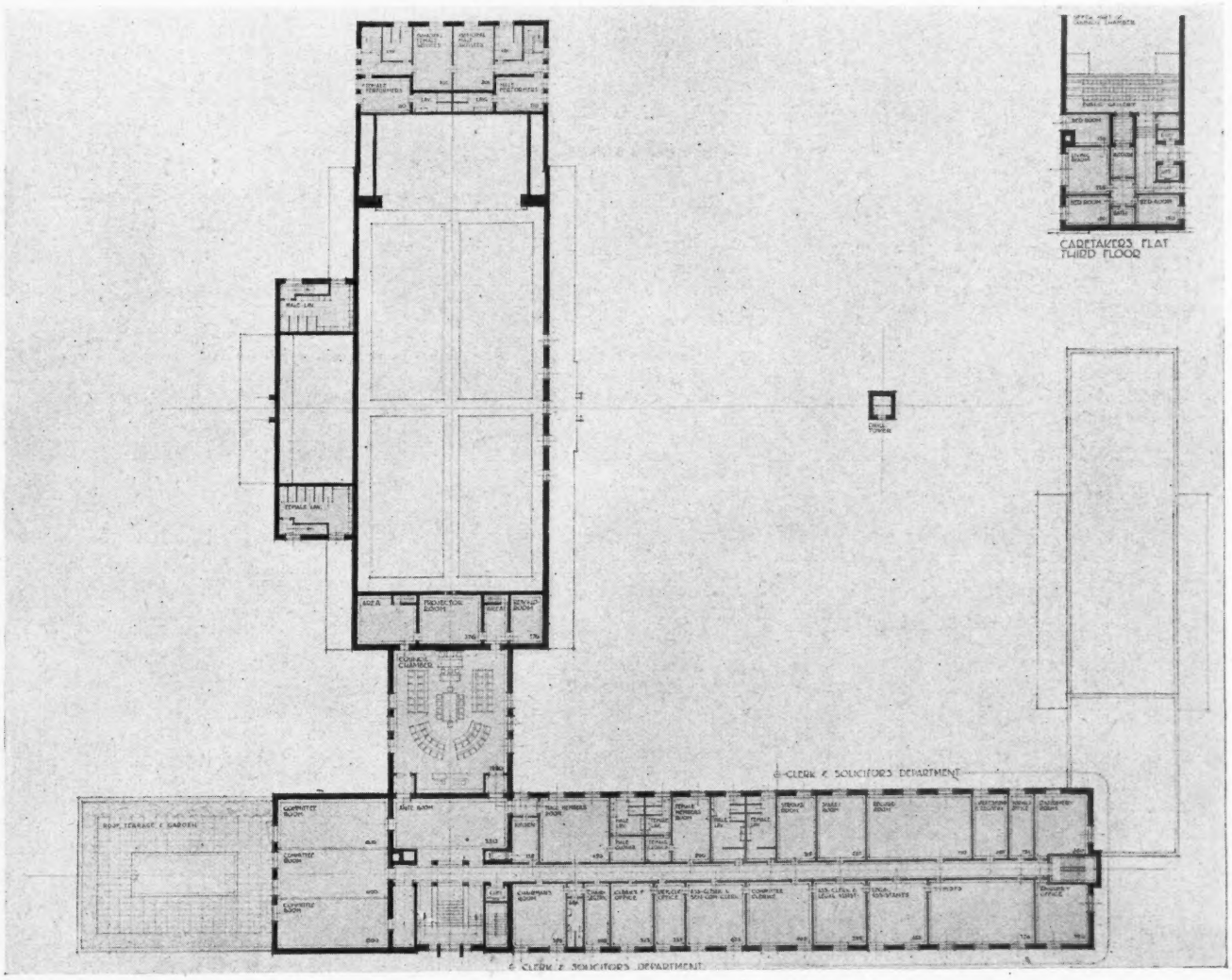
COMPETITION FOR MUNICIPAL OFFICES, ETC., WEMBLEY : First Premiated Design.

MR. CLIFFORD STRANGE, Architect.

(See page 959.)



SECTIONS.

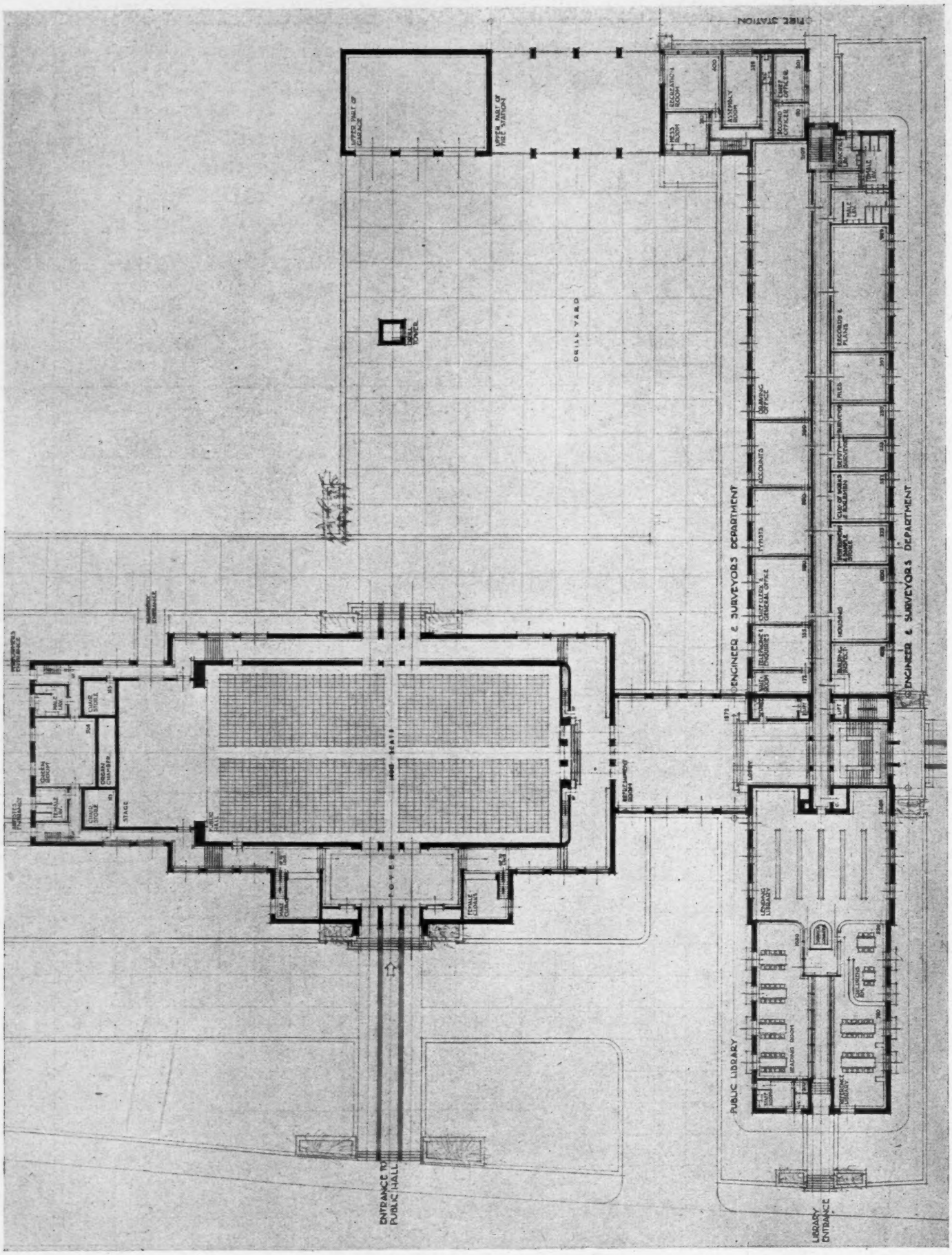


SECOND-FLOOR PLAN.

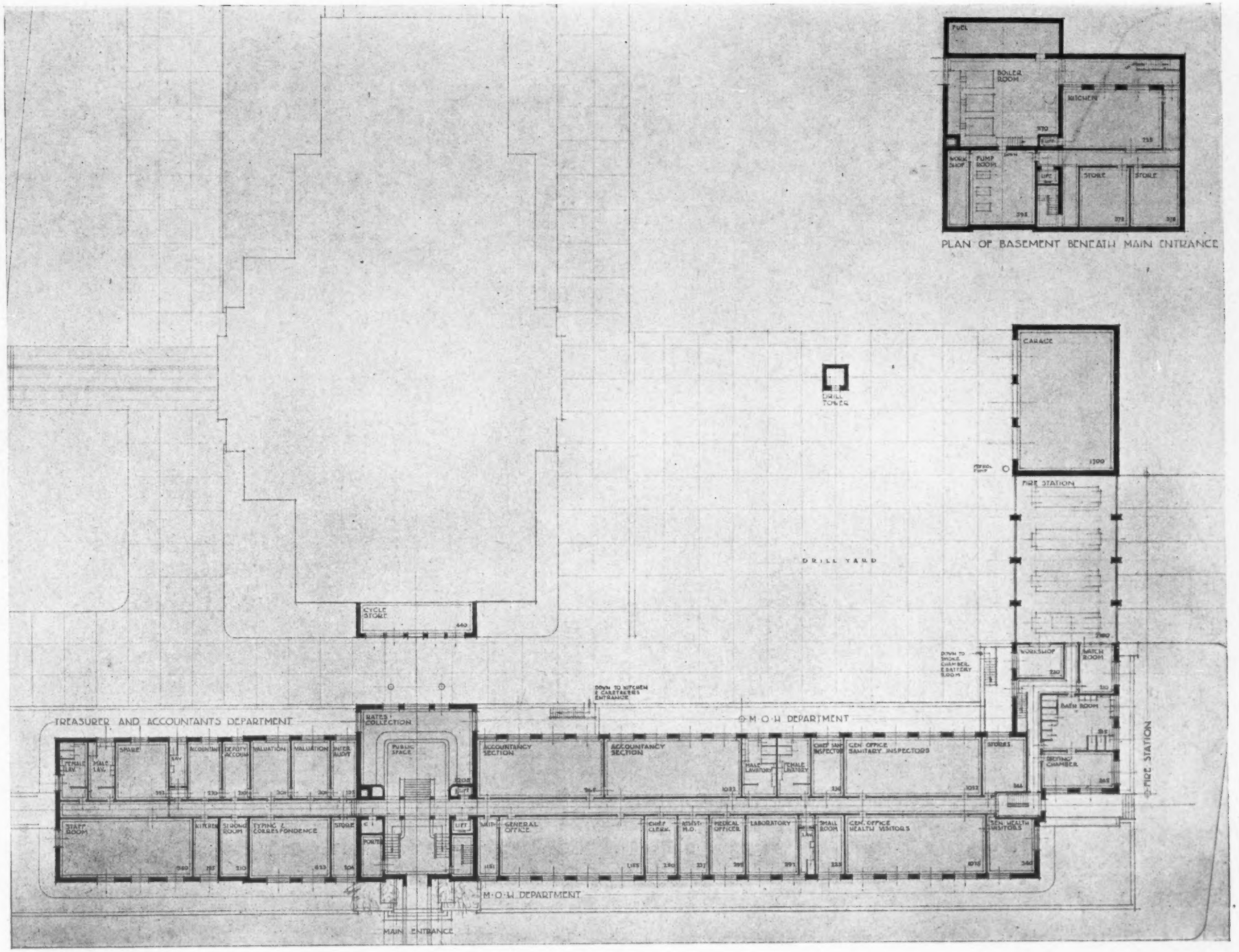
COMPETITION FOR MUNICIPAL OFFICES, ETC., WEMBLEY : First Premiated Design.

MR. CLIFFORD STRANGE, Architect.

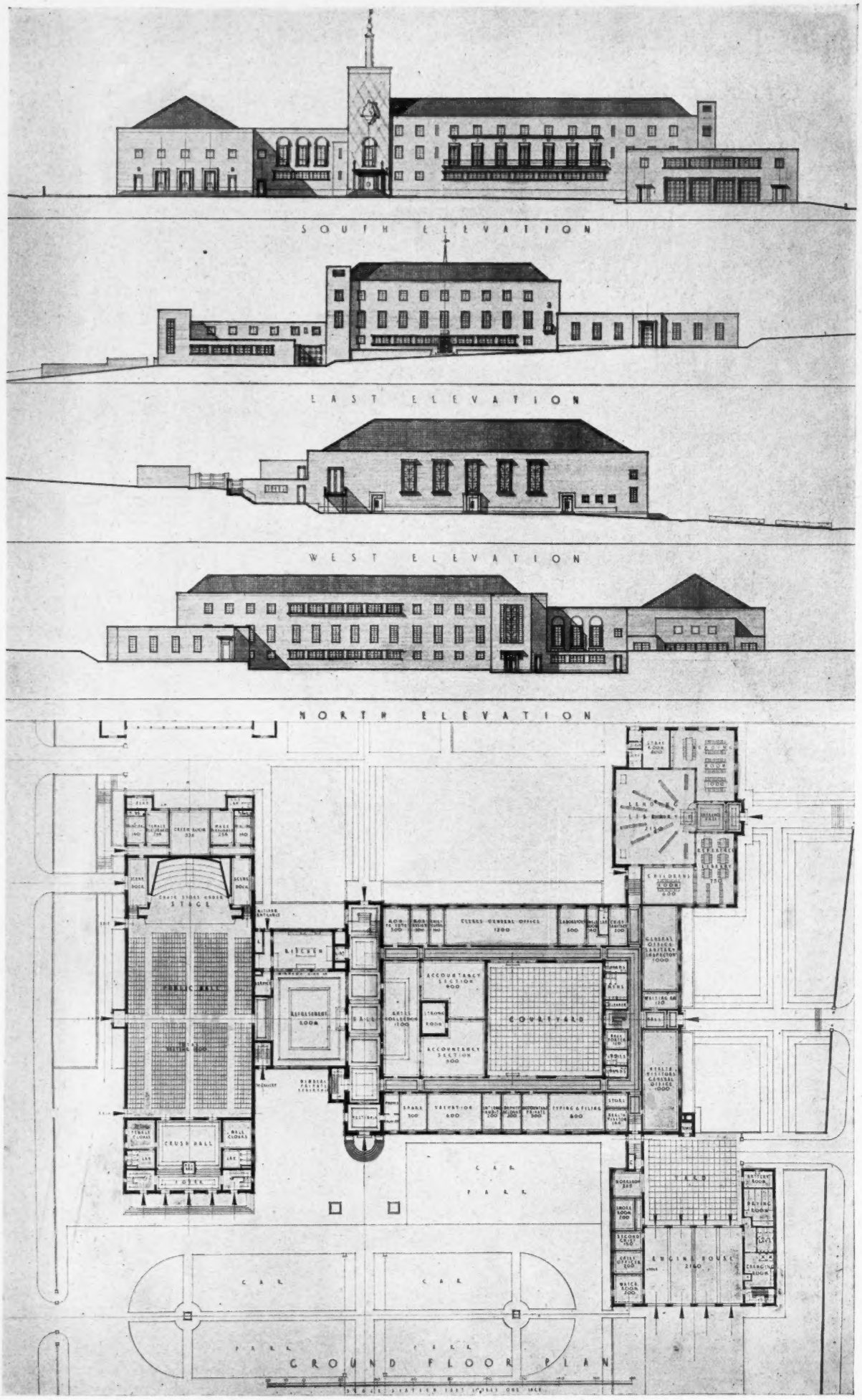
(See page 959.)



COMPETITION FOR MUNICIPAL OFFICES, ETC., WEMBLEY : First Premiated Design. First-Floor Plan.
MR. CLIFFORD STRANGE, Architect. (See page 959.)



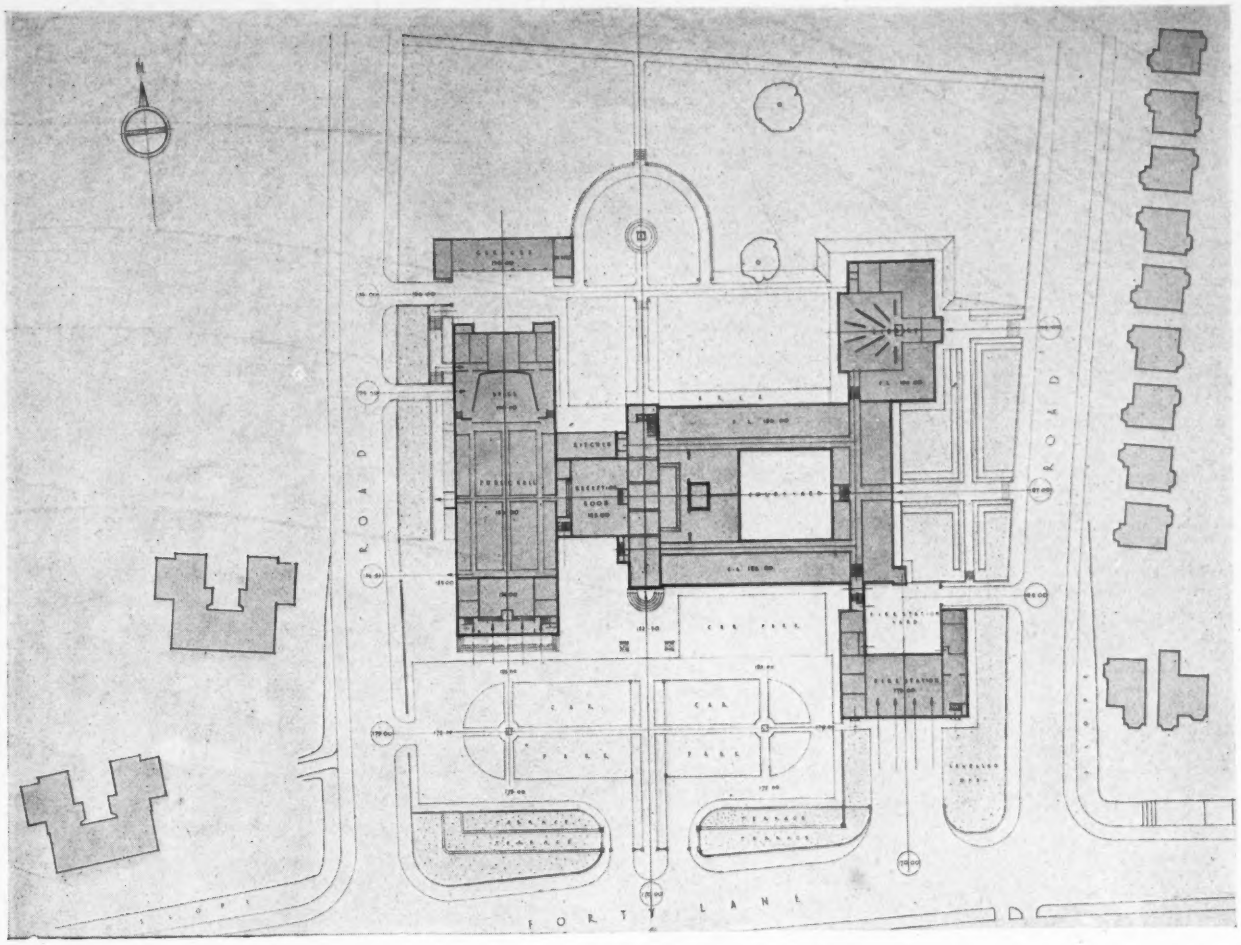
COMPETITION FOR MUNICIPAL OFFICES, ETC., WEMBLEY : First Premiated Design. Ground-floor Plan.
MR. CLIFFORD STRANGE, Architect. (See page 959.)



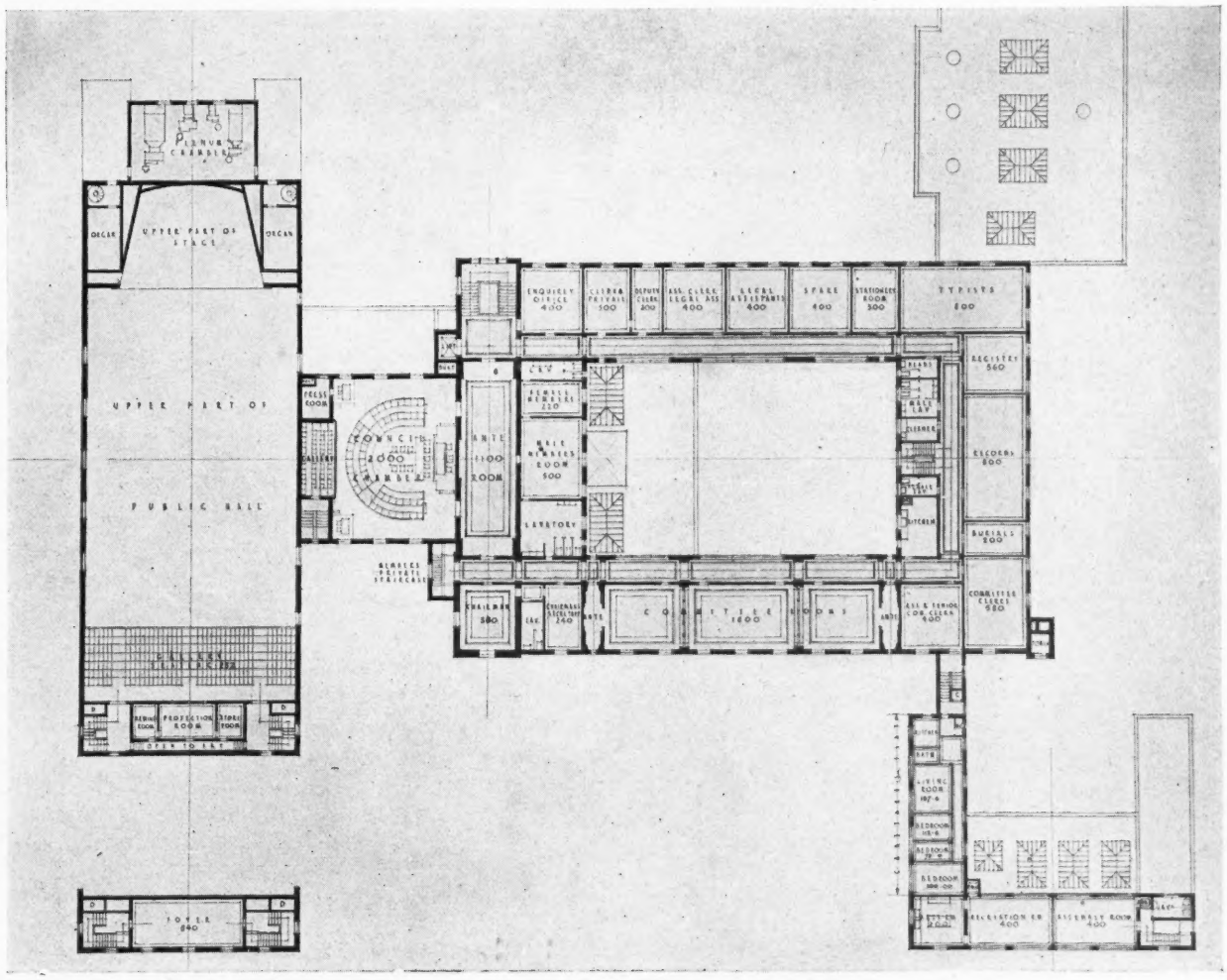
COMPETITION FOR MUNICIPAL OFFICES, ETC., WEMBLEY : Second Premiated Design.

By MESSRS. KENYON and LIVOCK, FF.R.I.B.A.

(See page 959.)



Layout Plan.

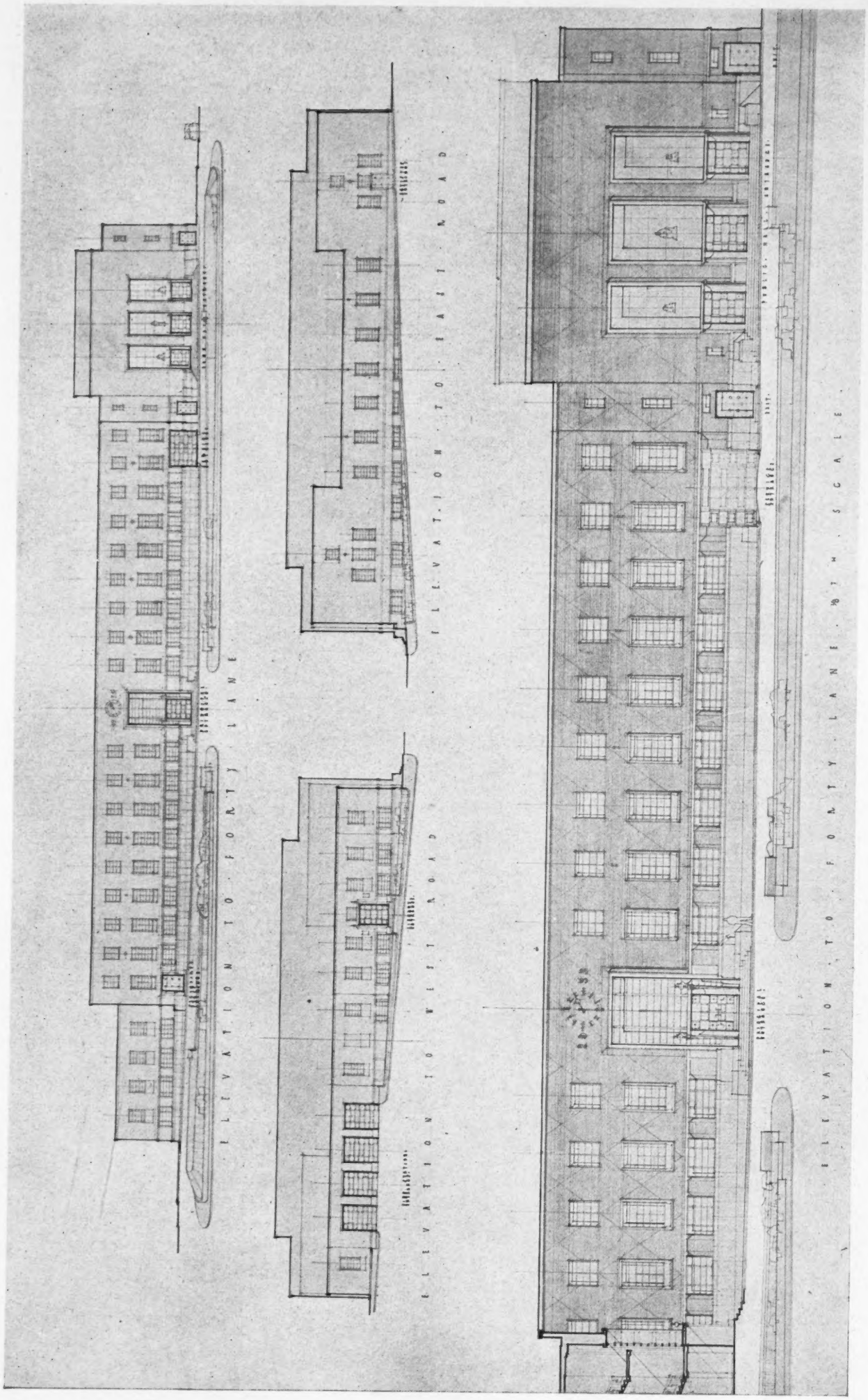


First-Floor Plan.

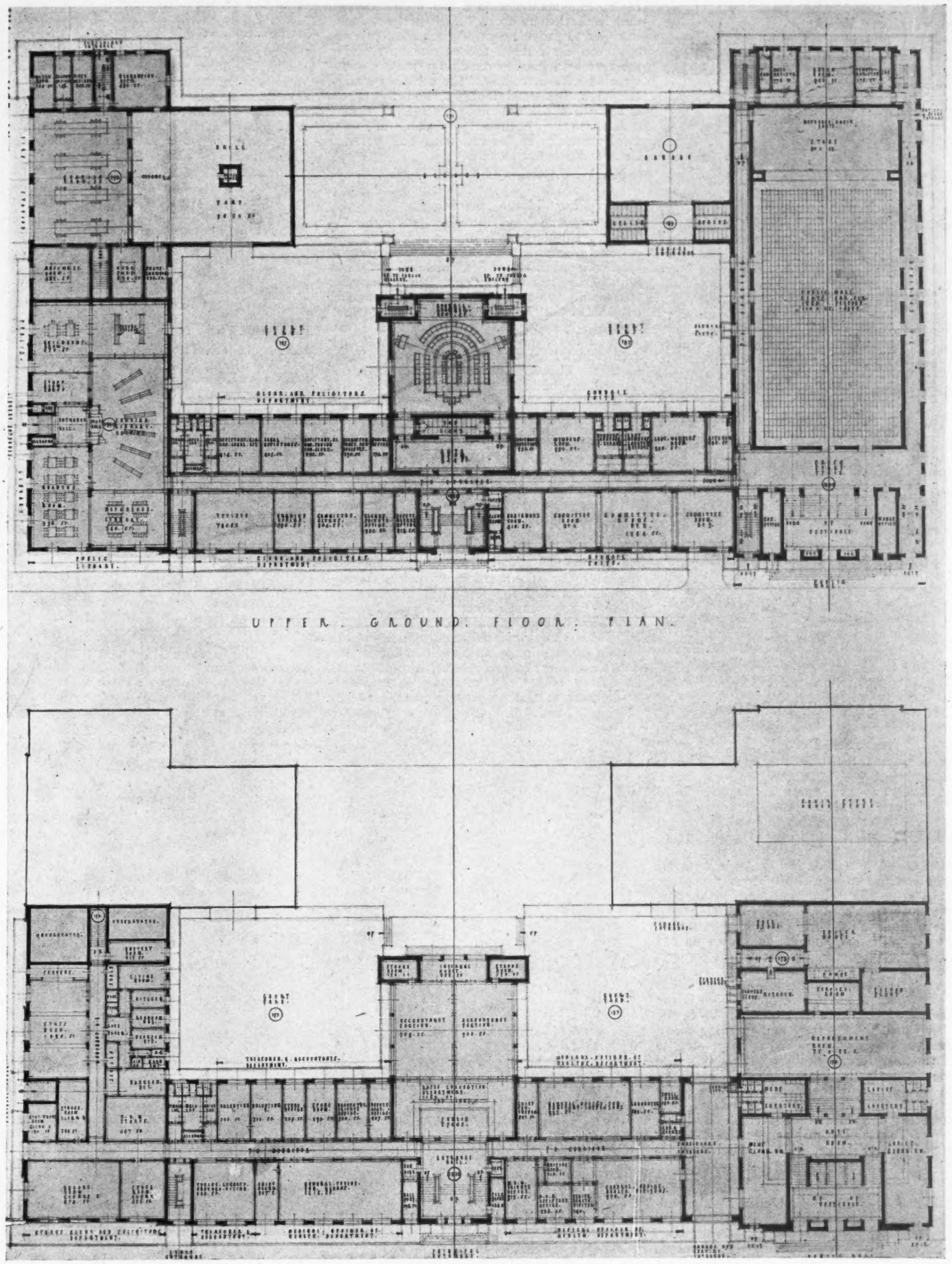
COMPETITION FOR MUNICIPAL OFFICES, ETC., WEMBLEY : Second Premiated Design.

By MESSRS. KENYON AND LIVOCK, FF.R.I.B.A.

(See page 959.)



COMPETITION FOR MUNICIPAL OFFICES, ETC., WEMBLEY : Third Premiated Design.
BY MESSRS. E. D. LYONS AND L. ISRAEL, A.R.I.B.A.
(See page 959.)



UPPER GROUND FLOOR PLAN.

LOWER GROUND-FLOOR PLAN.

COMPETITION FOR MUNICIPAL OFFICES, ETC., WEMBLEY : Third Premiated Design.

BY MESSRS. E. D. LYONS AND L. ISRAEL, A.R.I.B.A.

(See page 959.)

ILLUSTRATIONS

PLATES

Royal Academy Exhibits.

We give this week reproductions of some further drawings in the Architectural Room at the Royal Academy. Brief particulars of these follow.

Sports Pavilion, Stowe School.

This pavilion, which has been designed to harmonise with the main school buildings, will be constructed of brick and faced with stone and stucco, thus resembling Walpole House and the "north front." It will be roofed with green Cornish slates. Above the columns forming the verandah will be a balcony with seats for spectators. The central hall, which will have windows and doors opening on to the verandah, will be 40 ft. long, 16 ft. wide and 16 ft. high, and it will have a big open fireplace at each end as well as several radiators. There will be two good-sized changing-rooms and also a locker-room in which a third team can change if necessary. Each of the two washing-rooms will contain one big plunge bath, two slipper baths, four shower baths and a number of handbasins. There will be a separate changing-room and bathroom for a referee or umpire. There will be a kitchen (with servants' accommodation and a separate entrance), a workshop and a store-room. Electric light, central heating, hot water and cold water will be provided from the school.

Mr. R. Fielding Dodd, F.R.I.B.A., is the architect.

Ladies' College, Cheltenham: New Principal's House.

The new principal's house is part of a group of buildings forming the new junior school, new gateway and new workrooms, to be carried out at the Ladies' College, Cheltenham. The building has been designed to be in character with the existing building, and is built of local stone with stone slate roof. The terrace to the garden side of the house faces down the large open quadrangle formed by the present buildings.

Mr. Stanley Hamp, F.R.I.B.A., of Messrs. Collcutt and Hamp, is the architect.

House at Ashcombe, Devon.

This house is built at the end of a pine-wooded ridge 700 ft. above sea-level, with extensive views over the sea. It is built of brick, with local limestone dressings, and rendered with rough finish in local grey sand containing a large proportion of mica, giving life to the rendering. The roof is covered with Westmorland green slates. An old tower (about a hundred years old), already existing on the site, has been included in the new house, and now contains the main staircase, while the top is used for water storage tanks. As well as the accommodation shown on the ground-floor plan, the house contains owner's suite, spare suite and nursery suite, all with separate bathrooms, and there are nine other bedrooms. A special point of the plan is the stressing of the main living-room, 40 ft. by 22 ft., with smaller study and morning room, instead of drawing-room and library, etc., to suit the less formal needs of the day. The house is centrally heated, the boilers fired with oil fuel, and the house is wired for electric clocks, telephones and wireless. The contractors are Messrs. Staverton Builders, Ltd., of Totnes, Devonshire.

Mr. Brian O'Rorke, M.A., A.R.I.B.A., is the architect.

"Millbrooke Court," Putney.

"Millbrooke Court," Upper Richmond-road, consists of a group of two-, three-, and four-room flats, approached from one main entrance in the Keswick-road, with shops on the main Upper Richmond-road, and a large garage with showrooms at the opposite end of the building. The garage roof is laid out in the form of a Dutch garden, and is approached from the main staircase by a bridge. Adjoining the roof garden is a small restaurant. The elevations are dependent for effect entirely upon the treatment of the brickwork, which has diaper-pattern panels between the windows (after the Jacobean manner), so grouping them together and at the same time giving texture and light and shade to the general wall surface. The main entrance has been recessed, and is carried up for a height of two stories in order to provide a strong contrast. Interest has been centred on the entrance by lining the recess in marble panelling, with a semi-circular coffered ceiling. The door has a large carved and pierced fanlight, and the whole is being treated in a colour scheme. The shop fronts are in "Staybrite" steel, and the steel structure is covered with dull polished slate and Roman stone.

Mr. W. J. Kieffer is the architect.

Sheriff Court House, Edinburgh.

The present Court Building on George IV Bridge, Edinburgh, is inadequate, and the site is to be utilised for the new building for the National Library of Scotland. The site for the new Courts occupies a prominent position in the older part of the city, and is bounded by the Lawn Market, Bank-street and St. Giles-street. The four courts are planned to be on the ground floor and are approached from the main entrance in Lawn Market. The Courts occupy the central portion of the building, and are placed two on each side of the main hall. Around the Courts are arranged the rooms for judges, juries, witnesses, the Press, etc. The conference room occupies the main position of the first floor overlooking the Lawn Market. The remainder of the floor is given up to the library, judges' rooms, and accommodation for other court officials. The procurator-fiscal and offices for the Commissary Department are placed on the second floor. The basement is to be utilised for the police and for the storage of court records. The building is to be faced externally with Darney stone; internally the finishings will be kept on very simple lines; British oak will be used for court fittings, etc. Heating is to be by hot-water panels and radiators, and a plenum system of ventilation will be installed in the Courts, and corridors to same, also the more important offices. Particular attention is being paid to the acoustic properties of the building, and for the floors "silent" materials will be used. The total cost of the building, exclusive of the cost of site, is estimated at about £100,000.

Mr. A. J. Pitcher, H.M. Office of Works, is the architect.

"Grove Hall Court," St. John's Wood.

This building comprises some 230 flats of various accommodation, ranging from bachelor apartments, comprising a sitting-room and bed alcove, kitchen and bathroom, to large family flats, comprising four bedrooms, three reception rooms, two bathrooms, kitchen, etc. The building is situated at the top of Hall-road, immediately adjacent to Grove End-road, St. John's Wood, and has an entirely south-westerly aspect. Garage accommodation is provided in the form of approximately 200 lock-up garages. The building is a steel structure with hollow tile floors, and the external elevation comprises Portland stone with light red brick quoins, while the general brickwork is multi-coloured stocks. The windows to the external walls are deal casements with stone cills and brick-on-end lintols, and the oriel windows to the front blocks are cellulose copper.

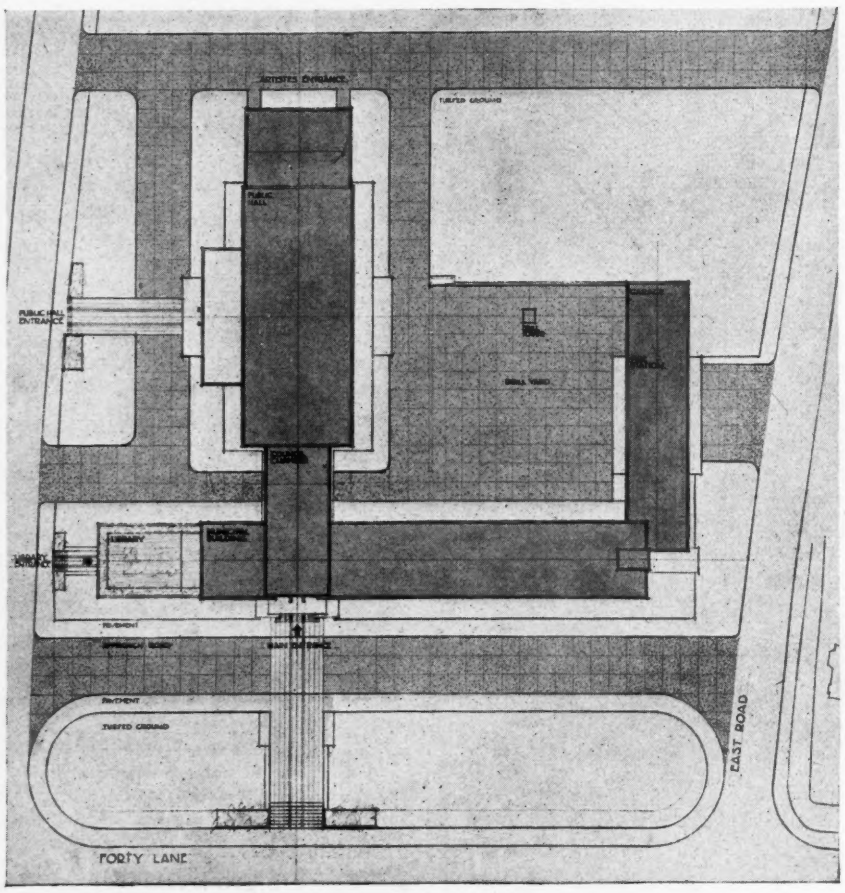
The building is served with its own water supply by artesian wells, installed by Messrs. Le Grand, Sutcliff and Gell. High-speed passenger lifts throughout the building are installed by Messrs. Bennie Lifts, Ltd. The steel structure is by Messrs. Redpath, Brown and Co., Ltd., to the design of Mr. G. A. Dodd, A.M.I.Struct.E., consulting engineer. The facing bricks are supplied by the Claygate Brick Co., Ltd.; metal windows to the stone features, etc., by the Crittall Manufacturing Co., Ltd.; asphalt work by the Ragusa Asphalte Co.; electrical installation by Messrs. Drake and Gorham, and heating and domestic supply by the Brightside Foundry and Engineering Co.

The general contractors are Messrs. C. Miskin and Sons, Ltd., of St. Albans.

The architects are Messrs. David W. Beck and William N. Potts, A.I.A.A.

Wembley Municipal Offices Competition.

We illustrate this week the first, second and third premiated designs in this competition, of which a criticism appears on page 959.



COMPETITION FOR MUNICIPAL OFFICES, ETC., WEMBLEY: Layout Plan of First Premiated Design.
MR. CLIFFORD STRANGE, Architect.

AMENDMENT OF LONDON BUILDING ACT

At the meeting of the London County Council, held on Tuesday, May 14, Sir Robert Tasker, D.L., J.P. (Chairman of the Advisory Committee), presenting to the Council the report of the Advisory Committee set up by the Council on the Amendment of the London Building Act of 1930 (a summary of which appeared in our last issue), said their desire was to bring about economy in building design and building construction by the use of science and logic rather than in the fashionable way of attempting to secure economies by effecting reductions in the cost of labour. There was unanimity in another direction, and that was that they could not favour any sectional trade or professional interest. The Report in no way committed or compromised the Council; it was merely a series of recommendations. The Council was free to accept, reject or amend. At the present moment the members of the Council realised that there was insufficient protection from the inefficient designer. They desired to encourage scientific design, and that would be all to the good from the administrative point of view, because it would lighten very materially the labours of a certain portion of their staff, who, they were convinced, were very much overworked. Their staff desired to help the public, and very often did help them, he was bound to confess, almost to the extent of designing some of the projects sent there. Whatever credit there might be attaching to the members of the Committee, it was equally shared by those members of the staff who took part in their deliberations and the outside public who gave them constructive criticism.

Mr. H. Berry, A.M.I.Mech.E. (Chairman of the Building Acts Committee), moved: (i.) That the Report, dated April 11, 1935, of the Advisory Committee on the Amendment of the London Building Act, 1930, be referred for consideration and report to the Building Acts Committee as regards those matters in the Report which are within the order of reference to that Committee only, and to the General Purposes Committee, after consultation with any other Committee concerned, as regards other matters in the report;

(ii.) That the thanks of the Council be accorded to the members of the Advisory Committee on the Amendment of the London Building Act, 1930, for their services, and to the Metropolitan Boroughs' Standing Joint Committee, the Royal Institute of British Architects, the Chartered Surveyors' Institution, the Institution of Civil Engineers, the Town Planning Institute, the London Master Builders' Association, the National Federation of Building Trades Operatives and the London Employers' Association, Limited, who had assisted in the production of the Report by nominating members to serve on the Advisory Committee.

The Report of the Advisory Committee on the Amendment of the London Building Act, said Mr. Berry, had been eagerly awaited for some time by members of the Council, and by members of the building public of London. He thought that all would be agreed that it was a very valuable document, and provided ample food for thought. The Council would be pleased to know that some of its practices met with the approval of the Advisory Committee, but he uttered a word of warning which he thought was necessary. The Report was in the nature of recommendations to the Council, and the same remark applied to other previous reports of the Advisory Committee. None of these reports had any executive force until such was given by the Council on the recommendation of the appropriate Executive Committee. It was of special importance that a right balance should be preserved, in view of the fact that the Council had a Bill before Parliament at the present time—a Bill that he regarded as being most valuable, and he would be very sorry if a mistaken reading of this or other reports in any way endangered its passage into law. He therefore hoped that no member of the Council and no Member of Parliament or of the public would assume that any of the recommendations, including the suggested By-laws, were in their final form. The Council's propositions on the subject would come in due course, and in the preparation of these due weight would be given to the recommendations of the Advisory Committee. There were parts of the Report which would require no new legislative sanction to give effect to them. His Committee would be asked to give consideration to these to ascertain how far it would be desirable and possible to act thereon. He endorsed what was said in the Report concerning the services of the chairman and vice-chairman, Sir Robert Tasker and Mr. B. L. Hurst. Both these gentlemen had rendered very good service, and, as a member of the Advisory Committee, he was pleased to add his tribute.

Captain G. E. Pierrepont seconded Mr. Berry's proposition, which was carried.

THE LONDON BUILDING ACT (AMENDMENT) BILL.

Consideration of the measure referred to above by Mr. Berry—the London Building Act (Amendment) Bill—was begun on Tuesday by a Select Committee of the House of Lords. Lord Askwith presided.

Mr. Craig Henderson, K.C., for the London County Council, said the Bill was promoted in order that London might have an up-to-date set of building by-laws in place of the present rigid code laid down in the London Building Act. The advisory committee which had been inquiring into the matter had only just presented its final report, which would need careful consideration and could not be embodied in a Bill this session. The present Bill would give the County Council power to make by-laws which would give much greater flexibility than the present rigid statutory code governing methods of construction and the materials to be used in building, and would also give the County Council power to modify or waive by-laws.

The Lord Chairman of Committees had drawn attention to the fact that, under this Bill, the by-laws would not have to be confirmed by the Ministry of Health. That was not a new departure. The Ministry had not reported against the Bill and apparently was satisfied that this power could be left to the County Council to use properly and justly. The only petition lodged against the Bill was that of the District Surveyors' Association, which feared that the Bill might be used to reduce their status.

The Chairman: You could not sweep them away by your by-laws.

Mr. Craig Henderson: No.

Mr. Baxter Greig, president of the District Surveyors' Association, said they feared that their independent duties might be limited, and that they might be brought in as servants of the County Council. That was undesirable in the public interest.

SLUM CLEARANCE AND OVERCROWDING

NEED FOR TIME AND PROGRESS SCHEDULE.

A luncheon, organised by the Society of Engineers, was held at the Florence Restaurant on Friday last, to give Mr. Alfred C. Bossom, M.P., F.R.I.B.A., an opportunity of submitting to an audience of engineers his suggestions with regard to the building of the great amount of housing accommodation required under the Government's slum clearance and relief of overcrowding proposals. The chair was occupied by the President of the Society, Col. H. C. Hawkins.

Mr. Bossom said we were facing a situation that required revision of our building methods. We were spending on building approximately 300 millions a year, half of which was spent under Government or municipal direction. The Air Ministry, in its pending developments, was going to insist on the time and progress schedule, and Mr. Ormsby-Gore was using it in his Department. He (the speaker) believed there was a great opportunity, in connection with housing, for the Minister of Health to give a lead to municipal authorities in the adoption of the time and progress schedule. Two and a quarter million houses had been built between the end of the war and 1934, and yet we had not met the needs of the poorest-paid worker. Slums had got to be cleared, overcrowding stopped, and the movement of population provided for. Sir Hilton Young was the first man to visualise the entire problem. He had had a complete survey made of the nation's housing requirements. Two hundred and eighty thousand slum habitations had to be cleared and the people moved into decent houses within five years. People would not live in the Becontree type of development, excellent though it was; they had to live in town near their work, and flats and tenements had got to be provided. It meant national planning, modern methods of efficiency and expediency, and the cutting out of all waste.

In the United States the system of the time and progress schedule (invented, incidentally, by a Canadian) was generally employed. One or two of the leading builders in this country had adopted it—he believed that the world record under the system was held in England—but, generally, it was not employed. Comparing the Imperial Chemical Industries building in London with the Empire State Building in New York, on both of which the time and progress schedule was employed, the speaker said that on the latter the bricklayer got 5 times as much a week, and the carpenter and the plumber 3½ times as much as similar workers here, yet the cost per room in both buildings was the same. It meant that we were paying a colossal national tax by not revising our building methods. We could save enough to reduce income tax by sixpence in the pound.

To solve our housing problem economically we had to plan ahead—to figure out when we needed our bricks, our concrete, our steel, and arrange where each trade should begin and end. All concerned—owner, engineer, architect, general contractor and worker—had to work together. We had got to get standardisation of building laws. It was difficult to believe, for example, that you had to fireproof your steel on one side of the Edgware-road, but not on the other side. In one place you could build your brick walls direct on the concrete foundations; five miles away you had to put in footings. In Stockwell you could use the one-pipe system of drainage; in Heston you could not.

The Government were going to appoint an Advisory Committee to go into the whole matter. There were 1,554 housing authorities in the country. They needed guidance. That meant that we must have planned housing. The equivalent of two million habitations (divided into flats and cottages) was required. It was possible to work out the materials required—the number of bricks, the standards of timber, the tons of cement, and so forth. We knew the number of factories making building materials and we could find their output, and determine its use, allowing for the continuance of ordinary building work at the same time. We had to have a time and progress schedule for the nation, and it was the duty of the Advisory Committee, to which he had referred, to work out a scheme that would avoid any scrambling for materials and men and the forcing up of prices. By planning of that sort it would be possible to make satisfactory arrangements with the suppliers of building materials, who could be given contracts for so many years. He believed that by reducing the cost of materials in this way, revising our building methods, and standardising our building laws, it would be possible to build the houses required at economic prices without the aid of subsidies.

The Chairman, proposing a vote of thanks to Mr. Bossom for his address, said that if some central authority could form a Government time and progress schedule, so that builders would not have to bid against one another, prices would come down and we should get what was wanted. Speaking for themselves, they were ready to do their part.

RIBBON DEVELOPMENT RESTRICTION BILL

LORD PLYMOUTH moved the second reading of the Restriction of Ribbon Development Bill in the House of Lords last week. The main arguments in support of a measure of control of this kind, he said, were that it was wrong that the benefits of a good road as soon as it had been built or improved should be reduced by the road being cumbered with vehicles standing outside dwellings which had grown up in a long string fronting directly on the road. In the next case, the building of houses strung out along our traffic arteries created a source of danger as well as congestion. Last year over 7,000 persons were killed on the roads, and some three-quarters of them were killed in what were known as built-up areas. Ribbon development created conditions that were dangerous and should therefore be checked as quickly and completely as possible. The æsthetic argument was by no means the least important. It was clearly undesirable, unpleasant and obnoxious that the appearance of our highways and the beauty of the country which surrounded them should be impaired and very often entirely ruined by this organised, unsightly and highly dangerous method of ribbon development. The communal aspect of the problem was another important point.

While in some areas wise use was being made of the Town and Country Planning Act, in other areas that was not so. In some cases planning authorities were chary of exercising their powers to the full extent. They feared that they would be required to pay large sums in compensation within a short period. In the Bill the Government had endeavoured to ensure that full and just compensation should follow only upon proof that any injurious affection to the land had resulted. He wished to pay tribute to the public-spirited co-operation which many landowners had shown in the formulation and carrying through of agreed schemes. Certain county councils had in the last two years sought and obtained yet further powers. Clause 2 of the Bill made these powers general. It enabled the highway authority to control building, with certain exceptions, within 220 ft. of the middle of the road. The Bill brought this control, so far as it concerned all classified roads, into operation immediately upon the passing of the Act. The Bill provided that the highway authority might by resolution, and with the concurrence of the Minister of Transport, apply the provisions of the clause to unclassified roads also. They did not want to see development driven off the classified roads in order merely to spread to the unclassified roads surrounding the towns and villages. This general power of control for 220 ft. from the middle of the road might be described as the provision of an amenity building line, but the purpose would not be completely achieved if the provision resulted merely in the setting back of ribbon development to some 200 ft. The Government aimed at enabling the highway authority to encourage ordered development and in particular ordered group development. At the same time it was essential to provide that on the more important roads all steps should be taken to safeguard land which might later be thrown into the highway in order to provide increased width of road for traffic requirements. They were taking powers in Clause 1 to enable the highway authority, with the Minister's approval, to adopt for any highway one of a number of scheduled standard widths. There was, however, no intention of laying down extravagant and inappropriate widths on an arbitrary scale. The minimum standard width in the Bill was 80 ft. from the middle of the road, which meant an all-over width of 160 ft. In the case of the wider amenity building line and of the narrow standard width line there were special provisions to meet the needs of agriculture.

The Government had given the closest attention to compensation to ensure justice to the public interest and at the same time to deal fairly with the owners concerned. While earlier Acts in effect provided for settlement of compensation immediately restriction came into force, the Bill gave the right of compensation only when evidence was forthcoming that the restrictions were in fact preventing development. If agreement were reached the claims for compensation would naturally be settled and extinguished at once. What the Bill did was to provide against the highway authority having to pay forthwith claims for compensation in respect of every yard of frontage on all the roads upon which restriction had been imposed.

In any ordered scheme of development there should result a substantial element of betterment, and special provision was made in the Bill for the off-setting of betterment against claims for compensation. That was a just principle and there were many precedents for it. In so far as restrictions related to the standard width line, the Bill proposed to authorise contributions in respect of compensation to be made from the Road Fund. It was hoped that the local authorities, in the exercise of their restrictive powers, would pursue a positive aim. Directions were inserted that the authorities should have regard to the need for preserving the amenities of a locality and securing proper development. The Bill gave the highway authorities powers for the compulsory acquisition of land adjacent to the highway for the purpose of creating parkways and the like as well as for the more limited purpose of improving the highway itself.

The general powers of the Bill were conferred not only upon county councils, but also upon the councils of county boroughs within many of whose recently enlarged boundaries there were still roads of a rural and undeveloped character. Provision was also made for the roads for which the councils of non-county boroughs were responsible. Provision was also made to enable local authorities to contribute to the expenses incurred by other authorities in exercising their powers under the Bill. The Minister of Transport had taken the opportunity to include in the Bill provisions to deal with certain urgent problems of road congestion in towns. Enlarged powers were given to local authorities to provide parking accommodation for vehicles in buildings and underground, and persons responsible for new places of resort might be called upon to provide accommodation for vehicles setting down and picking up persons visiting such places Power was also taken to adapt the provisions of the Bill to the special circumstances of London. The Government had considered carefully if it would in any way be practicable to make a portion of the Bill retrospective in its effect. The Government did not feel that they could properly ask their lordships, by some standstill clause of a drastic character. to immobilise all development, good as well as bad, between now and the date of the passage of the Bill.

LORD MARLEY, on behalf of the Opposition, said they had decided that in order to expedite the Bill's passage through the House, they would move no amendments. They appealed to the Government to be prepared to consider this only as a preliminary Bill.

In reply to Lord Crawford and others, LORD PLYMOUTH said he was not in a position to give an undertaking, but he felt certain that the Government would watch the effects of the Bill closely and he could not conceive that they would not be ready to introduce legislation which they thought necessary if the present Bill should prove ineffective. There were practical difficulties in the way of making the Bill retrospective apart from the general consideration that such a things was not very desirable. Nobody knew in what form the Bill would pass into Law, and any development that might take place between now and the time when the Bill became law would be at the risk of the developer himself.

The second reading was agreed to.

COMMON BUILDING TIMBERS

LECTURE AT CARPENTERS' HALL.

AT Carpenters' Hall, Throgmorton-street, E.C., on Wednesday, May 8, a series of lectures on carpentry and joinery was inaugurated by Mr. E. H. B. Boulton, M.C., M.A., whose subject was "Timbers in Common Use in Building." The lecturer said that there were in the world actually over 22,000 different kinds of woody plants, of which 3,000 were in common commercial use. The consequent range of quality, grain and colour was enormous, and increased by the fact that timber was got from trees of widely different ages. Some were cut at 45 years, but others were still standing at 3,000 years old or thereabouts.

The first place among timbers for common use in this country was held by the wood called red or yellow deal. Colour had but little to do with its name, a piece of yellow deal not being more yellow than a piece of red deal; but the same wood was called red deal in London and yellow deal in the North of England. Among the varieties of the species of tree which produced this wood was the Scots pine, the only native coniferous tree of this country, if we excepted juniper and yew. The best red or yellow deal came from Norway, Sweden and Russia. It was grown on a sandy soil, and the trees might reach maturity at any age from 90 to 250. In favourable conditions a diameter of 18 in. would be reached at 90 years, but on a different soil, further north and at a greater altitude, a tree might take 250 years to reach those dimensions. Timber from these pine trees was classified into two great groups, northern and southern, the northern having a larger proportion of heartwood than the southern, and being therefore less liable to rot. This timber was the one principally used for building in England, but in Scotland, besides redwood, European whitewood was largely used. This timber was produced by the spruce or Christmas tree: it had no apparent heartwood, but was the same colour all the way through. It was not a durable timber, and was suitable only for indoor purposes. When these timbers were used for constructional purposes, redwood only should be used on the ground floor, but whitewood might be used in the upper stories.

In Western North America the commonest age of the trees now standing was 250 years, but from this they varied up to 400, and there were trees much older, some being as much as 3,000 years old. Some of these trees were 250 or even 300 ft. in height and 40 ft. in diameter. For the first 50 ft. or so of such a tree knots were only found in the 3 ft. in the centre of the tree, all the rest of the timber being clear. Thus clear timber of very large dimensions could be got from this region. The principal tree giving such timber was the Douglas fir—otherwise known as the Oregon or British Columbia pine. Another of the commonest trees growing in that part of the world was the Western hemlock: hemlock had a bad name here chiefly because the first hemlock imported had come from Eastern Canada. But the Western hemlock provided a very much cleaner timber and of very much better quality than that from the east. One of its great merits was that it was not liable to be attacked by vermin. It required very careful seasoning.

From the same part of the world came the Western red cedar, a wonderfully durable timber. The Forest Research Laboratory at Princes Risborough, in Buckinghamshire, had carried out experiments endeavouring to make this wood rot, and after 18 months had not succeeded. There was a record of logs that had been lying for many years on the forest floor, but remained perfectly sound. In the last 18 months there had been an enormous demand for this wood for roofing purposes.

From Eastern Canada came the Eastern white pine—otherwise the Quebec pine, or Weymouth pine—the finest of all timbers for working, and therefore especially used for pattern making, panelling and carving. The Western white pine was sometimes substi-

tuted for the Eastern, but although it frequently required a microscope to distinguish between these two timbers, the one was nothing like so good as the other; and whereas the Eastern was worth over £100 a standard, the other would not bring more than from £24 to £30.

Another timber much used in building was oak. There were 275 different kinds of oak trees, and of all these for strength and durability the native British oaks were best. The quality of oak timber was dependent on the rate of growth and, contrary to what would be expected, the faster an oak tree grew the stronger its timber would be. From old or slowly grown trees was obtained mild timber easy to work. In America there were 56 different kinds of oak trees, the timber being classified under two main headings—white oak and red. Sixteen different kinds of oak trees there produced white oak, so that the timber varied enormously in texture. Slowly grown white oak was an ideal timber for mildness and machine work. Red oak was harder, tougher, and more treacherous. The Japanese oak was exceedingly mild, and should be used for panelling purposes only.

Elm deserved to be more used than it was in this country. It was regarded as a wood that warped and twisted badly in seasoning, but this defect could now be overcome. To do this the timber was put into a kiln and seasoned without much care, being allowed to twist and warp. It was then steamed and brought back to its original condition so far as concerned the quantity of moisture it contained. It was then seasoned again very carefully. By this method it was found that the first kiln drying took the vice out of the wood; and, in the Forest Products Research Laboratory, the board room was panelled in elm that had been treated in this way, and after being there two years all the joints were perfect, including those near and above the radiators. Elm was extraordinarily valuable underground. It was an excellent timber for weather boards, especially in half-timber frame houses.

While there were so many kinds of oak and pine, 460 different kinds of eucalyptus trees, and so on, with other trees, only two trees produced teak, and of these only one was useful commercially. Teak was more fire-resisting than any other timber; it had exceptional durability, and was not corroded by contact with metal. It was frequently used for building, especially in tropical countries. Jarrah was an extremely durable wood from Australia: a better timber could not be found for such purposes as verandah posts or the foundation of wooden dwellings.

The grading of timber depended on the mills where it was cut up, and the grading system of one shipper might differ slightly from that of another. In Northern Europe there was no definite standard of grading. In Canada and the United States there were too many grades.

Among other points of interest mentioned by the lecturer was one that it was no longer the practice to "clear fell" forest land. It was now usual for a certain number of trees to be left standing to act as parent trees, and sow the ground. When they had served this purpose they were cut down. Thus a forest could be worked on a rotation of, say, 90 or 120 years, so as to give a constant supply of timber.

Another point was that Douglas fir grew very rapidly in this country: the lecturer had known such trees to put on 7 ft. in height in one year; but with such rapid growth the quality of the wood would not be so good as that of the imported timber.

If we had taken the trouble to use durable timber, or timber properly treated, there would be no need for concrete posts in this country. The wood of the common yew tree, or of the false acacia, would stand untreated in the ground for over 30 years, and any wood thus situated, if it had been dipped in hot creosote, would last 40 years.

Timber was a much more durable building material than was commonly thought, and the danger of fire from its use was apt to be much exaggerated, although this danger was greatly increased by the use of thatch for the roof.

SCOTTISH HOUSING SCHEMES

ADVISORY COMMITTEE'S REPORT.

THE Scottish Architectural Advisory Committee which was set up in the autumn of last year by Sir Godfrey Collins, Secretary of State for Scotland, to report on the lay-out and architectural treatment of future State-assisted housing schemes, has just issued its report. The members of the Committee were Mr. John R. Richmond (Chairman), Mr. James Barr, Miss Grace Drysdale, Mr. John Begg, Mr. F. C. Mears, Mr. James Miller, Mr. Thomas S. Tait and Mr. John Wilson.

The Committee state that they feel there is in Scotland an increasing awareness generally that insufficient attention has been paid to the architecture and amenity of State-assisted houses, and that until the standards have been considerably raised housing schemes will continue to be unworthy of those aspirations for social betterment which lie at the root of the present intensive housing campaign. A more imaginative and socially constructive attitude towards æsthetic issues is urgently to be desired.

The conclusions and recommendations of the Committee may be summarised as follows:—

(1) The total programme of State-aided working-class buildings, when completed, will probably provide accommodation for as much as one-third of the total population of Scotland. Unless greater attention is paid to other than utilitarian considerations in the lay-out, planning and external treatment of schemes, the opportunity thus offered for improvement in the appearance and amenities of working-class dwellings will be lost.

(2) The most important influence which will lead to improved quality in the lay-out, design and external appearance of State-assisted housing schemes is a fuller realisation on the part of local authorities and architects alike of the possibilities these schemes provide for the exercise of artistic skill and creative imagination.

(3) Long-sighted and comprehensive planning has not received enough attention. The planning of new housing areas and of rehousing areas on central sites should be more definitely related to broad conceptions of planning and development embracing the whole area of the local authority. In formulating this broad conception of planning, local authorities should have regard to their probable building activities for a period of at least the next ten years.

(4) The fundamental defect in the majority of Scottish housing schemes is that houses have been treated merely as units of accommodation unrelated to each other and to their environment. A unified composition has seldom been envisaged.

(5) A system of routine street planning which dominates rather than serves is too much in evidence, and there is not sufficient distinction between roads for main traffic and roads for internal services. More advantage should be taken of the cul-de-sac formation. Unnecessary cross streets should be avoided.

(6) Where cottages and two-story flats are concerned, a greater degree of variation in the length of the blocks, as well as some increase in the average length of the blocks, is desirable. The existing tendency to monotonous repetition of standardised blocks will thus be avoided, and a greater sense of unity in design, as well as improved architectural effect, will be secured. The possibilities of combining different types of houses in the same group should be fully exploited.

(7) Tenements up to five stories in height may be permitted, subject to certain specified conditions.

(8) The provision of rehousing accommodation in central city areas has become an urgent problem, and the building of high flats in these areas is the only reasonable and satisfactory solution.

(9) The design and lay-out of tenements on central and suburban sites should follow the architectural style associated with modern blocks of working-class flats, rather than perpetuate the existing style of Scottish tenemental development.

(10) The interior design and internal conveniences of Scottish State-assisted houses have reached a high standard.

(11) Investigation might be made as to the possibility of restoring stone building and of reviving the quarry industry in Scotland, and Scottish brickmakers should be encouraged to produce a good facing brick.

(12) The monotonous repetition of grey roughcast walls is a depressing feature of housing schemes. Every endeavour should be made to secure better colour effects, and generally to brighten the exterior walls and woodwork.

(13) All new schemes should be laid out in a sufficiently spacious manner to provide room for adequate amenities and open spaces.

(14) There appears to be room for closer co-operation between the various departments of local authorities responsible for services in connection with housing schemes.

(15) If the opportunities presented by the extensive building programme now in contemplation are to be fully used, it is essential that local authorities should employ the best architectural skill, either in an executive or consultative capacity. Where the operations of a local authority are sufficiently large, a highly qualified architect should be appointed whose creative work in site planning and housing design would not be distracted by pressing administrative duties.

(16) Support is given to the proposals in Clause 69 of the Housing (Scotland) Bill with regard to the appointment of advisory committees to assist local authorities in considering artistic issues in connection with their housing schemes.

(17) Support is also given to proposals in the same clause that local authorities shall comply with such directions as may be given to them by the Department of Health with reference to artistic quality in the lay-out, planning and treatment of State-assisted houses.

(18) It is recommended that a special section of the Department of Health be formed to guide and control the lay-out, design and amenity of housing schemes built with State aid. (With regard to this recommendation, the Department hopes to be able to announce a decision shortly.)

(19) It is suggested that a special panel of architects should be set up by the Royal Incorporation of Architects in Scotland to assist local authorities in the preparation of housing plans.

(20) Local authorities should be required to submit sketch plans of all housing schemes to the Department of Health for approval. If the plans are unsatisfactory, and cannot be adjusted by ordinary negotiation, the Department should recommend the employment of an architect from the panel. In the event of a local authority failing to give effect to this recommendation, the Department should require the authority either to employ an architect from the panel or some other architect approved by the Department.

In regard to the erection of tenements the Committee are not prepared to lay down any general standards of density, but they suggest that where five-story buildings are in question the Department should in no case agree to a density in excess of 50 houses per acre.

The Committee were required to give due regard in their recommendations to considerations of economy and cost. In that respect they state that "the poor appearance of many schemes has, in our view, been wrongly attributed to the rigid economy enforced in regard to cost. Economy certainly places some limitation upon design, but good proportion and sensitive composition are not dependent upon cost, and the schemes where these qualities are present are not, generally speaking, more expensive than those where they are lacking."

INQUIRY BUREAU

ANSWERS.

Sale of Jointly Held Property.

[ANSWER TO "H. B.," MAY 10.]

SIR,—House property or any real estate held jointly by two persons cannot be sold without the consent of both parties. Either party, however, unless denied the privilege by covenant, can sell his individual interest in that property which, so far as the vendor is concerned, amounts to much the same thing. A.

House Works: Adjoining Owner's Refusal to Give Access.

[ANSWER TO "TOT," MAY 17.]

SIR,—The adjoining owner is within his rights in refusing to allow ladders to be placed upon his footpaths for the purpose given. To do so without his permission is "trespass," and actionable. "Tot," in the circumstances, cannot be held liable for non-completion, as his employer is bound to afford facilities for the work to be done, and apparently cannot do so. If there exists the bad feeling referred to, "Tot" should try what he can himself do with the adjoining owner in order to get the work completed. LEX.

Cesspool Drainage.

[ANSWER TO "PICK," MAY 17.]

SIR,—The sewage disposal system described by your correspondent appears to be thoroughly insanitary, as must any system be which permits crude sewage to percolate into the ground. I suggest that a new septic tank be formed before the entry into the cesspool, and that the cesspool be thus used only as an effluent soakaway. The capacity of the new septic tank need not be great, and should be calculated to contain a two days' supply of sewage at thirty gallons per day, per head of population. SANITARY.

Plastering Costs.

[ANSWERS TO "H. S.," MAY 17.]

SIR,—The extra "labour only" value of one coat cement and finish "Sirapite" is very little more than one coat hair mortar similarly finished. It has, however, some greater value, say, one halfpenny per superficial yard. SCALES.

SIR,—Your correspondent has entered into a contract to do certain work of a certain description. Variations in the quantities of such work would not vitiate his contract, but he is under no contract to carry out work of an entirely different description and is entitled to charge either day work or a fair valuation for this work. COSTS.

Painting on Cement Dado: Sealing Damp Wall.

[ANSWER TO "A. C. B.," MAY 17.]

SIR,—Your correspondent does not state whether the dado in question is subject to dampness. If this is the case, the application of two coats of petrifying liquid before painting is likely to provide a remedy. There are various colourless waterproofing solutions on the market, most of which are effective for a term of two or three years, after which it is necessary to renew. The cost of this is not high, and the periodical renewal, therefore, is not an alarming matter. An older and equally effective method is to apply two coats of boiled oil, but this tends to change the colour of the brickwork externally, giving it permanently a damp appearance which may not be objected to. This treatment also, however, needs periodical renewal. DAMP.

Specialist's Work: Loss of Profits.

[ANSWER TO "T. H. R.," MAY 17.]

SIR,—It was with interest that I read the reply of "T. H. R." regarding the payment of cash discounts on p.c. sums, and, whilst I have no desire to cross swords with Mr. W. T. Creswell, I can only say that the procedure which I set forward, namely, the payment of a so-called cash discount, where the sub-contractor is paid direct, comes as an answer to queries which I placed before the Chartered Surveyors' Institution.

Sub-section (c) of Clause 24 is the only apparent occasion where the contractor is not entitled to a cash discount. I must admit, too, that having read Mr. Creswell's book on the 1931 Form of Contract, I was not able to find any case parallel with the one under discussion.

In my opinion, the only reasonable way that the problem of p.c. and provisional amounts could be overcome, would be to amend the clause so that all such amounts are nett, and in consequence, the contractor would not have to consider them as a source of income whatsoever, but add any profit he required on same in the item following the amount, which provides for such profits. In the present form, trouble naturally arises where contractors, keen to get a job, will make sacrifices in their rates, in anticipation of some such cash discount.

Thus, if the procedure of T. H. R. is adopted, the builder is left in the position of finding himself without moneys which he could reasonably expect to receive, not, I venture to suggest, a particularly equitable procedure. ARTHUR K. SMITH (P.A.S.I.).

THE WEEK IN PARLIAMENT

Standard of Materials.

MR. HICKS asked the Minister of Health whether, in view of the disclosures in regard to the use by building speculators of inferior materials in house building and the victimisation of house purchasers consequent thereon, the Government was proposing to appoint a committee of inquiry into the matter; and whether, in view of the complaints now being made in all parts of the country by persons who had been led to purchase houses built of bad and unsuitable materials, under what amounted to false pretences, he was considering how to meet these complaints and to redress the wrong done to these persons.

SIR HILTON YOUNG said that he was not at present aware of the disclosures to which the hon. member referred or of any general complaints such as those he mentioned. He was prepared to make inquiry into any cases brought to his notice in which the nature of the defects in houses purchased afforded *prima facie* evidence that by-laws were not being enforced. He was not satisfied of the utility for any other action.

MR. HICKS asked the Minister of Health whether he would consider the adoption of such measures and regulations as would ensure that before building societies loaned money for house purchase, the house or houses would be surveyed upon the basis of a minimum standard of materials, durability and suitability.

SIR HILTON YOUNG said it was not in his power to regulate the operations of building societies in the manner suggested.

MR. HICKS asked whether it was not within the Minister's power to guide the building societies, and whether he would satisfy himself before advances were made, that the houses concerned were of the standard commonly approved as durable and suitable for the purposes for which they were erected.

SIR W. SUGDEN asked the Minister to tell the House whether the building societies of this country were not scrupulously careful as to the method by which they advanced money for houses suitable for the working people of this country.

SIR HILTON YOUNG said it was obviously in the interests of the building societies to consider the value of securities.

The Housing Bill.

The House of Commons has spent some little time in considering the Report stage of the Housing Bill, but it is hoped that the measure may soon be ready to go to the Upper House. The position has been complicated, however, by Sir Hilton Young's agreement, under considerable pressure from the members of his own party, to reconsider the feasibility of granting more generous compensation to owner-occupiers of property scheduled in a clearance area. This will need an amendment of the Bill, and possibly of the money resolution in connection with it.

This difficulty having been got over, more rapid progress was made. DR. ADDISON moved a new clause to provide that no Exchequer contribution should be made unless the Minister "is satisfied that the accommodation to be provided will be in conformity with regulations to be made by him specifying minimum standards of equipment and amenity." The regulations should not come into force until approved by both Houses of Parliament.

MR. BOSSOM said that the Bill made no effort to reduce the cost of building, though obviously that could be done, as had been shown by the results in other industries, notably the motor trade. The regulations issued by the Ministry of Health ought to secure that there should be uniformity in the materials used in building. At present, a piece of wood or a piece of brick was of one strength in one place, and of another strength in another. Those anomalies ought to be ended.

MR. MCENTEE maintained that the standard of houses built to-day was a good deal lower than the standard of ten years ago. He hoped the Minister would raise the standard.

SIR HILTON YOUNG said that there had been a rapid awakening to consciousness that the old housing standard was intolerable and that it was necessary to secure a reasonable minimum of amenity. He accepted the view that it was the function of the Ministry to act as the guardian and guide of building in regard to securing better housing standards. But there had been no deliberate reduction of those standards by the policy of his Department. When contemplating, as they must, an increase of building in blocks of flats they must take the greatest care to avoid errors which occurred through lack of foresight and knowledge at the inception of flat building in the large cities. There could be no question at all of encouragement on the part of the Ministry of building skyscrapers. Under the Bill, the minimum height of a flat was three stories. He contemplated three or four stories as normal, with occasionally five stories. He should contemplate six stories as abnormal, and there should be a definite reluctance to go so high unless it was absolutely necessary. They must be ready with the most modern forms of construction as soon as the Bill was passed. For that purpose there had been sitting a committee of experts and architects for some time at the Ministry, and he hoped they would be ready to report and recommend standard planning and the most modern improvements and designs for the houses of local authorities as soon as the powers in the Bill were available. It would also be their object to provide proper grouping of flats so as to provide open spaces, gardens and air and light space. It was not the general policy under the Bill to exercise any pressure of flat construction rather than cottage construction. The proposed clause was unnecessary in view of the provisions already in the Bill. The Bill incorporated the idea that the Ministry would insist on proper planning schemes in order to make re-development effective. Hopes for the reduction of costs, and consequent reduction of rents, lay in the direction of reasonable standardisation of materials and parts. He did not advocate soulless uniformity. It would be a sorry day if the cottage homes of England were ever rebuilt to a sealed pattern issued from Whitehall. There must, however, be greater progress in connection with the organisation of demand and the grouping of orders.

MR. SELLEY said that when local authorities were familiar with all the details they would undoubtedly prefer the building of cottages without a subsidy to building flats with a subsidy. It would be necessary to rehouse people in flats in many places, and he could not imagine any local authority—he certainly could vouch for London—which would undertake the building of large blocks of flats without securing the advice of the best architects. Standards were being lifted, and to attempt to do more at present in the way suggested would mean not progress but chaos.

The new clause was negatived by 192 votes to 39.

THE BUILDING TRADE

HOUSE DRAINAGE AND SANITARY PLUMBING—XXI

By J. R. TAYLOR.

DRAIN PIPES AND JOINTS.

As recently as 1870-80, engineers of recognised standing differed as to the desirability of completely filling the joints of stoneware drains laid underground. In a work published in 1876, its author, a well-known civil engineer, recommends that the lower half of the joint be formed in clay, and the upper half be left open, so that the drains may do double duty and drain the site as well as the building. This practice still finds favour in some rural areas. In London, where drains were subjected to a water test in the late 'nineties, some drain layers half-filled the sockets with well-tempered clay, and finished with Portland cement, and joints so formed were highly resistant to pressure applied soon after the drains were laid; we do not put this forward for imitation, but as something of which sanitary inspectors should be aware. In the writer's experience, the best ordinary cement joints are formed by experienced labourers not afraid of using their fingers to press the mortar well home. These men use a small trowel, worn down to about the size of a dessert spoon, and some of them become so skilled that joint failure under test is with them a very rare occurrence, provided the pipes are not subjected to any accidental disturbance before the mortar has hardened.

Many methods of making joints on stoneware pipes have been patented, the principal object being to make them self-adjusting when the spigot is introduced into the socket and pushed home. Perhaps the best known of them was the Stanford joint which, as improved by well-known manufacturers, was shown at the Sanitary Exhibition at York in 1886, and received favourable notice in *The Builder*. One of the claims made for it was that, the joints being self-adjusting, a drain laid in bad ground might sag without leaking, and that curves could be formed without using bends. It is, of course, highly undesirable that drains should be allowed to sag, and where the nature of the ground is such as to make this probable unless precautions are taken, iron pipes should be used, and a means of support devised. In some cases this may be done by piling at intervals and bridging with reinforced concrete, and in others there may be a sufficient thickness of firm, upper crust to permit of the pipes being slung. These difficulties, however, are more frequently met with in sewerage work than in connection with house drains. Other well-known forms of special joints are the "Hassall" and the "Self-Centering," and there are many others. The ordinary form of joint finds most favour by reason of being everywhere obtainable, and permitting pipes to be cut to length, and connections made to gullies and other fittings without special material. But if drains are required to be laid in waterlogged ground, it is distinctly advantageous to use pipes that need only have the prepared joints pushed home, for the water will escape down the drain while it is being laid, and pumping can be avoided.

Drains on Concrete.

We have mentioned that in a footnote to Model By-laws, the Ministry of Health advises that pipes conveying sewage and not constructed of iron, should be laid on concrete. It may readily be granted that this is a desirable thing to do, but there is a good deal of evidence that it is not always necessary. It is interesting to note that in 1920, in connection with the L.C.C. Housing Estates, the Ministry expressed the opinion that: "In connection with the development of sites for housing purposes, it is not considered necessary to use concrete for bedding or encasing salt-glazed ware pipe sewers, except in the following circumstances:—(a) where the nature of the ground provides a bad foundation, the pipe to be bedded in concrete at least 6 in. thick haunched up to the centre of the pipe; (b) where the depth of cover above the pipe exceeds 14 ft., or is less than 4 ft. in roads, or 3 ft. in fields or other places liable to be used by carts, etc., the pipes to be completely encased in concrete at least 6 in. thick; (c) where the internal diameter of the pipe exceeds 15 in., it may be strengthened with concrete where considered necessary." It has, of course, to be borne in mind that in 1920 the cost of building was so high that everybody directly concerned was anxious to introduce economies. Where by-laws do not enforce the use of concrete under drains, it is seldom used in connection with houses, except it be necessary to cross a drive, or other place subjected to the passage of wheeled traffic; and yet fractured pipes are rarely met with in practice. The writer does not, however, like to trust clay, and where it is present, would always, at depths of 4 ft. or less, encase the pipes with concrete, using a 1 : 2 : 4 mix. Should pockets or pot holes be found on the line of drain, the concrete bridging them should be reinforced.

Gullies.

Gullies are obtainable in an almost endless variety of shapes and patterns. For some it is claimed that they have self-cleansing qualities, but under average conditions of usage, there is no such things as a self-cleansing gully. Fixed at the foot of a tall waste stack receiving the discharge from the baths in a number of flats, a gully may occasionally be flushed out. But when it receives waste water from house fitments, nothing of that sort usually happens, and to keep gullies reasonably clean they should have regular attention. In choosing a gully, regard should be paid to such matters, for if it must be periodically cleaned out the work should be facilitated. The grating should not be of less area than that of the body of the gully, nor should it, for privately occupied buildings, be of the hinged or locking type. A gully that is easy to clean is favoured by H.M. Office of Works, particulars of which are readily obtainable from manufacturers and merchants. The simplest thing to do is to drive the contents into the drain by plunging with a mop while introducing clean water. But where the gully is in a paved space, and serves a scullery sink, it is wiser to ladle out the contents, in case there is something there that might cause a choke in the drains. When a gully branch drain is not connected to a manhole, and it becomes choked, it is rarely necessary to open out in order to clear the stoppage, for vigorous plunging with a household mop will usually clear it. Where a mop is not available, a substitute may be improvised with a few rags tied in a piece of cloth. If the crooked end of a walking stick is embedded in the bundle it will not slip off. A fire rake, a pair of tongs and many other things can be used, but a labourer having once been shown how to do it, will dispense with a handle and turn up his shirt sleeve.

A choke in a soil drain may be very difficult to dislodge without drain rods. Gullies having back arm or side inlets, should have greater depth than those receiving discharges on to gratings, particularly where the volume of waste water is considerable, and descends from a height. If some gullies with back inlets are examined, it will be found that the invert lies but an inch above the weir of the outgo, and by reason of piling up, this might cause some amount of back pressure. Where the waste water stack is of 3-in. diameter and is at all likely to be charged at some approach to capacity, the back inlet bend should be 4 in. in diameter. For similar reasons, if the direction of flow changes from vertical to horizontal in the stack, an increaser bend should be introduced, and the piping continued at the increased diameter.

Grease Traps.

In the case of small, privately occupied houses, where the domestic staff does not include male service, the disposal of grease presents some difficulties. On the whole, in such circumstances, the simpler the method the more likely it is to be satisfactory, and a deep, round gully with mud bucket serves the purpose fairly well, though being far from ideal. It does not retain a great deal of the grease, most of which is floated into the drain, but it collects heavier material to which some grease clings, and which becomes difficult to remove from gullies having no buckets. As usually supplied, the handle (rod) is rather too short, is not stout enough, and not sufficiently firmly attached to stand rough usage. After a time the rod is frequently found to be eaten through as the result of corrosion at normal water level. For larger premises, where a considerable amount of continuous cooking makes it necessary to dispose of large amounts of grease in water, more elaborate means of collection are employed. Collected grease is saleable, and where the quantity that can be retained is large, it may be worth while to arrange for several chambers for cooling and solidification. In the one-pipe system the discharges from sink wastes in the case of blocks of flats seems likely to present a difficult problem. It has been suggested that a cast-iron water jacketed grease-trap, with bolted on air-tight cover, should be fixed on brackets next to the sink, and that cold water should pass through on its way to the draw-off tap and so keep the separated waste water in the trap cool. Provided that a properly instructed caretaker were made responsible for the periodical cleansing of such a device, the idea would seem to merit examination. But if the tenants are expected to give it the necessary attention, a dangerous nuisance would be likely to arise.

Rainwater Shoes.

Where a house stands detached in its own grounds, the disposal of rainwater separately seldom presents a problem of any great difficulty. The site is sure to slope away from the house in at least one direction, and water, led to soakaways on the lower side, will escape, and travel away from the house. If the water has to be collected in considerable lengths of drain, it is desirable that the rainwater stacks should be disconnected and discharge on to trapped gullies, for after a period of years a considerable amount of decaying vegetation is nearly always found in rainwater drains. But often a rainwater pipe is so situated that with a short branch it may discharge into a nearby gully having a side inlet. In such circumstances, the rainwater stack may with advantage discharge on to a trapless gully, or into a rainwater drain shoe. This is a better method than connecting into an ordinary drain bend, for these shoes provide a means of access should the drain become choked. They are made in various patterns, and catalogues showing them are readily obtainable.

BRITISH STANDARD SPECIFICATION

Multi-Tubular Horizontal Boilers.

The second of the projected series of specifications for land boilers has now been issued by the British Standards Institution. This deals with horizontal multi-tubular boilers of dryback and waste-heat types. It is generally similar to the specification issued last year for Lancashire and Cornish boilers, but includes, in addition, appropriate provisions and rules for tubes and bar stays. The projected series of B.S. steam boiler specifications comprises the largest measure of common agreement, and should materially assist export trade in steam boilers. Further specifications will, in due course, deal with vertical and water-tube boilers. Copies of the specification (B.S.S. No. 609-1935) may be obtained from the Publications Department, British Standards Institution, 28, Victoria-street, London, S.W.1, price 2s. 2d., post free.

BRITISH INDUSTRIES FAIR

REVIEW OF EXHIBITS.—II.

THE Engineering and Hardware Section of the Fair opened on Monday at Castle Bromwich. At the Press view on Friday it was evident, in spite of the incomplete nature of the exhibits, that there has been a great improvement in the general lay-out and in the design of the particular stands. The control over the height has obviously had a salutary effect. Exhibitors number 1,030, and the exhibits occupy 274,000 sq. ft. of space, as compared with 85,000 sq. ft. in 1920.

We continue our review of exhibits :—

D. ANDERSON AND SON, LTD. Stand B 723.

A full range of "Red Hand" roofings for housing, factory and other purposes is exhibited on this stand. Linings and dampcourses are also to be seen, besides "Thermotile" insulated flat roofing and "Macasfelt" flat roofing. An interesting plaster-board for walls and ceilings is "Stoniflex"; it has applications which should appeal to the architect.

ASSOCIATED FIRECLAY COMPANIES, LTD. Stand B 403.

A novel exhibit shown on this stand is the "Stonite" one-piece fireplace, which is well worth a visit. Sanitary ware and fittings in white or coloured glazed earthenware and fireclay, and a variety of salt-glazed stoneware drain-pipes, of diameters 3 in. to 36 in., complete the display.

BAKELITE, LTD. Stand C 520.

A selection of the ever-increasing range of goods now manufactured from "Bakelite" synthetic resin is shown on this stand. Of particular interest to the building trades are varnishes and lacquers, door furniture (of which some attractive designs are now being made), laminated sheet for decorative purposes, such as wall-panelling, and so on. A most interesting show.

BALDWINS, LTD. Stand C 409.

Steel sheeting for various uses are on display here, and architects may be interested in the silver-finish sheets. Sheets for the stamping and electrical industries are also shown, and a speciality is made of cast-iron butts and hinges.

BAYLISS, JONES AND BAYLISS, LTD. Stand B 608.

This old established firm have on their stand specimens of their various types of iron fencing, including the special pattern supplied to the Central Electricity Board for their stations all over the country. Also showing is the "Bayliss" vertical bar unclimbable railing which has the vertical locker at the horizontal rail and will adapt itself to undulating ground. Another section of this stand contains high-class architectural metal work in wrought iron, bronze, stainless steel, and oxidised silver. Noteworthy examples are a reproduction of the centre piece of the entrance gates as supplied to the Geological Museum at Kensington and a Jubilee panel for gates with, as centre piece, a Crown and Regardant lions in oxidised silver.

BENHAM AND SONS, LTD. Stand B 415.

Cooking apparatus for hotels, hospitals and institutions generally, where large-scale work is expected, is on view here. A particular exhibit is the "Solidtop" gas range, fitted with a pressure steamer, pastry oven and coke grille, and electric radiators. "Nevastane" Staybrite steel sinks and draining-boards of various types are also on view.

BRITISH ELECTRICAL DEVELOPMENT ASSOCIATION, INC. Stand C 519.

As in previous years, E.D.A. is represented at a kiosk in the centre of the Electrical Section, arranged as a rest room and an information bureau where particulars regarding rates and facilities for electricity supply in any part of the country can be obtained. This year the kiosk is decorated with a series of illuminated dioramas illustrating the applications of electricity in the home, the factory and in public works. The Association has prepared a guide to the electrical section, copies of which may be obtained at the stand or on application to the Association at 2, Savoy Hill, W.C.2.

BRITISH REINFORCED CONCRETE ENGINEERING CO., LTD. Stand in Exhibition-road.

A main exhibit on this stand is B.R.C. reinforcement for the concrete road. This material, which is electrically welded high-tensile drawn steel fabric, has been used on many hundreds of miles of road, and is a proven material for its purpose. It is supplied in rolls or sheets.

BROOKES, LTD. Stands B Outdoor 1,207/1,106.

All varieties of natural and reconstructed paving-stones are shown here, a speciality being made of "Silex" and of "Nonslip" reconstructed stone paving. Glazed bricks, firebricks, roofing tiles, porous "Nonchoke" pipes, granite setts, etc., are other exhibits, besides a selection of terrazzos.

"THE BUILDER," LTD. Stand B 307.

On this stand (that of the Periodical, Trade Press and Weekly Newspaper Proprietors' Association) the current issues of *The Builder*, including the last issue, in which this review of exhibits was begun, are on sale.

BURTON, DELINGPOLE AND CO., LTD. Stand D 626.

Drop forgings of every description are on view here, especially weldless steel flanges, collars, etc. Of more interest, probably, to the general building trade is the display of steel scaffolding fittings.

CANADIAN SECTION. Stand C 703.

A number of Canadian firms are exhibiting on this stand, and displays include high-quality sanitary seats, plain, polished or cellulosed; W. H. Colt's Canadian cedarwood shingles (tiles); gas and electric cookers with novel features; and TenTest fibre board—the last being shown in several of its many uses as a ceiling and partition boarding.

CANDY AND CO., LTD. Stand B 607.

A display of the latest patterns of "Devon" fires is shown here, set in faience and tile fireplaces—many of them most charming. Another pleasant exhibit is a glazed roofing, while wall tiling in a number of very pleasant designs is also on view.

CASTON AND CO., LTD. Stand B 317.

The recommendations of the L.C.C. Advisory Committee on the Building Act will, if carried through, mean additional uses for fireproof doors. Architects, with this in mind, should visit this stand, where a selection of high-grade collapsible fire-resisting doors and "two-speed" sliding doors are on view. Besides these, there is an attractive display of architectural metal work.

CEMENT MARKETING CO., LTD. Stand C 1,201 (outdoor).

Exhibits and practical demonstrations of "Blue Circle" and "Ferrocrete" Portland cements are given here, a speciality being made of "Cullamix" coloured cement mixture. This last, which is obtainable in a variety of colours, has various applications for renderings for buildings, roads, pavements and decorative floors.

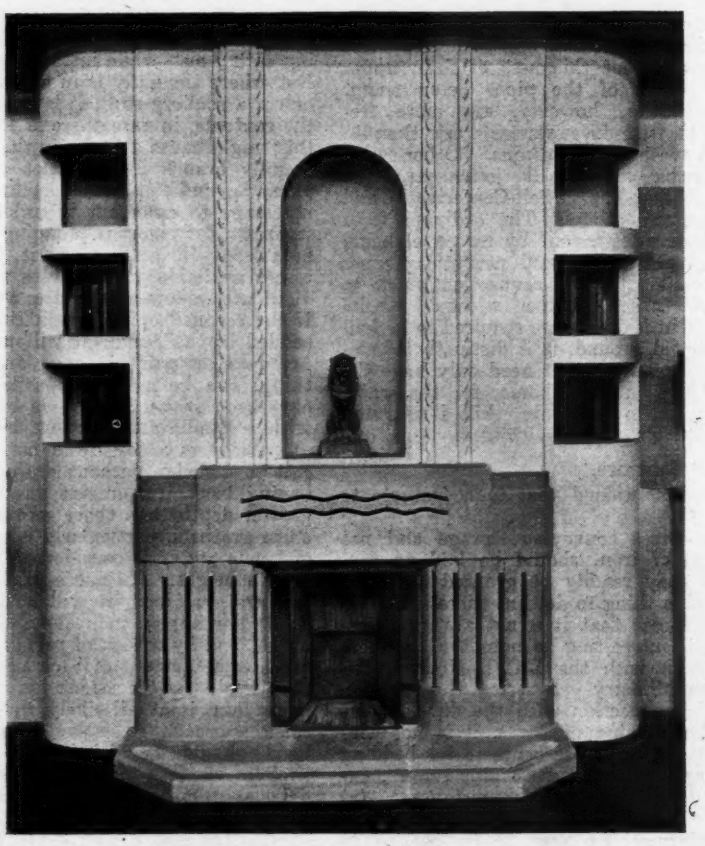
COAL UTILISATION COUNCIL. Stand B 602.

This display has been organised by the Coal Utilisation Council, as representative of both the producers and distributors, in close association with the Coal-burning Appliance Makers' Association. The exhibits include examples of the most up-to-date appliances for the utilisation of solid fuel, as well as samples of the particular fuels suitable for use with each. Allied Guilds, Ltd., Sidney Flavel and Co., Ltd., Aga Heat, Ltd., Crittall, Ltd., and the London Warming Company are among the companies whose products are on view.

An illustration on this page shows a particularly pleasant fireplace on this stand, executed in "Guildstone" by Allied Guilds, Ltd. The insets in the reeded jambs are in brilliant black, and this idea is repeated in wave form in the lintel. Allied Guilds have also designed and carried out the fibrous plaster niche above the fireplace and decorated the whole of the stand in harmony.

CROFT GRANITE, BRICK AND CONCRETE CO., LTD. Stand A 527.

Reconstructed stones and marbles are chief exhibits here, being principally of the "Adamant" types. Croft "Hydromant" solid reconstructed stone, reconstructed Hopton wood stone and terrazzos of various kinds are also on view. Features are the excellent tones and textures of the reconstructed materials, seen in such forms as window surrounds, fireplace surrounds, and garden ornaments.



A FIREPLACE IN "GUILDSTONE"

DREW, CLARK AND CO. Stand A 318.

Every builder who believes in plant of quality will not miss the display of ladders, steps and trestles shown on this stand. These are all of the long-established "Diamond" mark. A recent development is the patent "disappearing" loft ladder, in which a counterbalanced action permits its incorporation in a ceiling trap—most useful for builders developing housing estates. "Rap-Rig" scaffolding and telescopic travelling platforms will interest decorators.

DUNBRIK, LTD. Stand B 421.

All bricks and tiles shown on this stand are of concrete. Special advantages claimed for these are low porosity, a choice of colours and lower cost. We were informed at the stand that it is possible to obtain a licence for an exclusive territory and to manufacture, by means of patented machinery, these products. The interest of the majority of constructors will be, however, in the bricks themselves, and a visit to the stand is recommended.

EAGLE RANGE AND GRATE CO., LTD. Stand B 601.

Architects and builders for municipal and private housing estates should examine the "Eagle" combination range shown on this stand. This fitting combines full cooking space and ovens with an open fire. For the kitchen-living room it is excellent. A variety of grates, ranges and gas-coke fires makes the display of a comprehensive nature.

JOHN ELLIS AND SONS, LTD. Stand B 1102 (Outdoor).

Recent developments in concrete products—kerbs, paving slabs, tubes, etc.—are shown on this stand in the Outdoor Section. This should be of particular value to the highway and borough engineer.

ELSAN MNFG. CO. Stand B 502.

"Elsan" non-flush sewerless chemical closets for bungalows, sports pavilions, factories, works—for all buildings, in fact, which are removed from main drainage—are shown here. They are claimed to be completely effective and sanitary, and have been awarded bronze and silver medals by the Royal Sanitary Institute.

EXPANDED METAL CO., LTD. Exhibition-road.

This firm's exhibit takes the form of a length of the Exhibition-road, in concrete reinforced with "RR" 6-in. mesh "Expamet" road reinforcement. This well-established material has peculiar advantages for this purpose, and highway engineers should go and see what can be done with it.

IFFLEY BRICK FIREPLACES CO., LTD. Stand B 502.

Builders developing housing estates should certainly visit this stand to inspect the brick fireplaces—ready slabbed or in sets of loose bricks. These sets are obtainable in distinctive designs of natural kiln-burnt colourings. Glazed tile fireplaces are also to be seen. This company has also commenced to market fine varnish stains and polishes of the "Argonaut" brand.

IMPROVED WOOD PAVEMENT CO., LTD. Exhibition-road.

A section of this road is laid with creosoted British Columbian pine laid on the "Firmosec" system. This system has been laid on a great many important thoroughfares in London and other large cities. The "Firmosec" system is a fast-locking system—one of the features which are responsible for its success.

JOHNSON AND PHILLIPS, LTD. Stand C 603.

The importance of trustworthy cables in wiring a building cannot be overlooked today. From several aspects it is important, not least from the point of view of maintenance. Messrs. Johnson and Phillips are showing a wide selection of their cables of various weights, and the architect who likes to know what he is specifying will be welcomed at the stand.

T. C. JONES AND CO. Stand B 901, Outdoor.

This firm—which ordinarily specialises in simple fabricated steelwork—is showing at Birmingham petrol-driven cranes for road or rail. These embody the latest improvements, and are of 8 to 15 cwt. size. Models are shown with or without power slewing.

LONDON AND MIDLAND STEEL SCAFFOLDING CO., LTD. Stands D 526 and Outdoor 1103/1002.

Tubular steel fittings are shown here, a speciality being made of steel scaffolding, couplings, etc. A range of bathing pool equipment, ladders, platform structures, diving boards, etc., will interest municipal architects and others concerned with the design of swimming baths.

MILLAR'S MACHINERY CO., LTD. Stand D 1103 Outdoor.

The latest designs of this firm in concrete-making plant are shown here. Concrete mixers up to 10/7 capacity; mortar mixers, tar and bituminous macadam plant for quarry and roadside use; diaphragm pumps; 3 in. and 4 in. brick crushers, and hoists of 15 cwt. size, petrol driven, are among the machines to be seen.

MORRISON, INGRAM AND CO., LTD. Stand A 628.

High-class equipment for bathrooms and lavatories will be found here, such as spray and shower baths, panelled baths, hinged glass screen baths, and a varied selection of pedestal and stand lavatory basins. A new feature is a bath with a raised seat.

MOTOR UNITS, LTD. Stand A 1018, Outdoor.

The motor roller shown on this stand should fill a widefelt need among those who require a medium-weight roller that is cheap to run, simply and strongly designed, and simplicity itself to handle. The machine, which weighs 10 cwt., has a wide range of applications, among which the rolling of tennis courts, golf fairways, sports grounds and, more particularly of interest to builders, the formation of thoroughly packed and consolidated ash or gravel paths. An ingenious device prevents the grinding effect sometimes caused by turning heavy rollers. The back roller is in two sections, and when the guiding bar on the front roller is turned, for instance, to the right, the right-hand section of the back roller is thrown out of gear with the petrol motor, and "marks time" until both front and back rollers are in the same lateral plane. The speed is 3 m.p.h., and the roller can also be operated in reverse. A battery of grass cutters can be attached if desired.

FREDK. PARKER, LTD. Stand C 1221/1120 Outdoor.

A wide range of concreting and roadmaking machinery is shown on this outdoor stand, some of them in operation. The "Little Giant" 6-use mixer, which has an output of 20/30 cub. yds. daily; a "Parker" roller-pan mixer, for sand-lime mortar, hair plaster and small aggregate concrete; a "Monarch" brick breaker and engine in a size which will crush 4 tons of rubble per hour; and a hoist and engine, and a selection of barrows are among the plant on view.

PARKER, WINDER AND ACHURCH, LTD. Stands A 708 and B 601.

On the first of these two stands are shown a number of types of fencing—woven wire, chain link and chestnut paling, all rendered durable by a patent galvanising process. On the second stand are displayed a number of "Eagle" ranges—chief among which is the type burning graded coke. It has pivoted firebars for ash removal and lagged doors to the oven and before the grill base. Insulated covers to hot-plate and thermostatic control to flue outlet are further features of interest.

W. R. PICKUP, LTD., AND STONITE, LTD. Stand B 403.

A selection of high-class enamelled fireclay sanitary ware and fittings, comprising baths, lavatories, urinals, sinks, etc., is shown here, and should be inspected by architects for hospitals, hotels, schools, public conveniences, and private houses. Also shown, of particular interest to architects and builders for speculative housing estates, is the "Stonite" one-piece fireplace, in which every hearth incorporates a kerb, and there are no loose tiles. The material is glazed fireclay, and many colours are available.

PILKINGTON BROS., LTD. Stand B 705.

Glass of all kinds for structural, glazing and decorative uses is shown on this stand suitable for all requirements. A visit to the stand will enlarge the vocabulary of the average designer in matters relating to this fascinating material.

PINCHIN, JOHNSON AND CO., LTD. Stand B 419.

Examples of the latest developments in paints, varnishes, stains, enamels, lacquers, etc., displayed on this stand, will interest the decorating trades. The display includes preservative materials for application to industrial products of all kinds.

POWELL DUFFRYN ASSOCIATED COLLIERIES, LTD. Stand B 618.

Exhibited here are a number of the by-products which are obtained from Powell Duffryn's coal. These include "Presotim," a highly efficient, deeply penetrating, decorative wood preservative, available in two qualities, interior and exterior, and in a large variety of bright, fast colours; "Presomet," a bituminous paint which protects all forms of metal-work against corrosion yet leaves a bright finish; and "Synthaprufe," a liquid waterproofing material.

RANSOMES AND RAPIER, LTD. Stand D 1001, Outdoor.

A wide range of contractors' plant is on view here, including the following products, which are new, and therefore worthy of special note: ⅜ cu. yd. "RapieR" type 410 excavator; 2½-ton 20-h.p. "RapieR" diesel loco.; 4 ft. 6 in. dia. "RapieR" pan-type mixer; 5/3½ cu. ft. "RapieR" tilting-drum type 3½T mixer; and "RapieR-Jaeger" self-priming centrifugal water pump. The firm's standard products are also shown, including a petrol-electric mobile crane.

RAWLPLUG CO., LTD. Stand A 416.

A large number of builders' accessories are on view here, including "Rawlplugs" and tools, "Rawlbolts," bathroom fittings, "Durofix" plastic wood, liquid porcelain, soldering irons, heatless solder, solder flux, aluminium enamel, paints, varnishes, etc. Altogether, an interesting stand for builders and contractors.

RUBEROID CO., LTD. Stand B 423.

This stand stresses the advantages of bitumen roofings for every type of roof and building. Chief among these is "Ruberoid"—especially useful for large buildings. For smaller buildings, "Starex" and "Pluvex" are recommended. A selection of bitumen dampcourses, including a new mineral dampcourse, is also displayed.

RUSTON AND HORNSBY, LTD. Stand D 1101, Outdoor.

Public works engineers and contractors will find an inspection of the "Ruston" locos. on this stand well repaid. These diesel-type engines are of 18/21 h.p. and 36/42 h.p. respectively, and have as a special feature a constant-mesh three-speed gearbox, unaffected by uneven track. Another interesting piece of plant is a diaphragm pump, with engine, mounted on a steel chassis.

JOSEPH SANKEY AND SONS, LTD. Stand B 707.

Steel pressings of every description are found on this stand. Of principal interest to the building trades are radiator screens, bath panels, architectural metal trims, door frames and window sub-frames, while "Sankey-Sheldon" steel furniture and partitions are also displayed.

H. C. SLINGSBY. Stand B 519.

Builders' and contractors' plant of all types are shown here. The display includes "Slingsby" sliding wheel trucks, sack trucks, platform trucks, handcarts, stackers, wheels, castors, barrows, Steel-back extension ladders, "Steelheld" extension step ladders, sliding stairways, attic ladders, loft ladders, tower ladders, lifting trucks, electric trucks, petrol trucks, and so on.

SMITH AND DAVIS, LTD. Stand A 506.

Specialities on this stand are brassware for the furnishing, cabinet, builders' and plumbers' trades. Displays are made of curtain rails, expanding curtain rods, stair carpet holders, brass hinges, barrel bolts, jointless chain, sanitary seat hinges, sink wastes, horticultural brassfoundry, and mirror fittings.

SAMUEL SMITH AND SONS, LTD. Stand B 401

Architects for housing estates, municipal and otherwise, and speculative builders should view the "Foresight" patent grates shown here, all models of which reach a high standard of perfection and up-to-dateness. Special attention is drawn to the "Wellmade D.D" and "Double Hob" models. There are also exhibits of gas and electric fires.

STEEL SCAFFOLDING CO., LTD. Stand A 705.

This firm, fresh from its triumphs at the Jubilee festivities (where it supplied "Big Ben" scaffolding for over two-thirds of the temporary grandstands), gives a convincing display of the merits of steel scaffolding in modern building construction and restoration work. Safety, speed, economy (the members can be re-used indefinitely, lowering maintenance costs), and the ability of erection in the minimum space are all factors which will appeal to the progressive builder. These fittings are patented throughout the world and constitute a unique system of ordinary plain ended tubing for steel scaffolding.

TARMAC, LTD. Exhibition-road.

This firm are sole manufacturers and patentees of "Settite," a new road surfacing material which is non-skid and guaranteed not to require surface dressing for three years. Its qualities as a road surfacing where heavy wear is expected and its guaranteed freedom from maintenance will appeal highly to road surveyors and borough engineers.

TENTEST FIBRE BOARD CO., LTD. Stand C 703.

Models showing the application of "Ten-Test" to wood and concrete floors and walls are a special display here, and experts are in attendance to give information on thermal conductivity and prevention of sound transmission. Examples showing the decorative possibilities, particularly on treatment of joints, are highly interesting.

TUBE PRODUCTS, LTD. (incorporating H. Joyce, Ltd.). Stand D 615.

On view at this stand is an architectural scaled model showing tube uses; electrically welded steel tubes and round or square sections are displayed. These can be supplied in any length. Fabricated and manipulated tubings for all purposes may be seen, and give a good idea of the resources of this firm.

TURNER'S ASBESTOS CEMENT CO. Stand C 401.

The many applications of asbestos-cement for building materials are well demonstrated on this stand. Among them are pressure pipes for gas and water mains, rainwater and soil goods, gas flues and fittings, bath panels, fire surrounds and fire-resisting materials for building construction.

UNITED STRIP AND BAR MILLS. Stand D 506.

Reinforced concrete engineers who believe in high quality of materials should visit this display. Steel reinforcing bars are a principal exhibit, and the company's motto, "ferro-concrete bars—plus service" is worth investigating by those who require quality coupled with speedy delivery at stated times.

UNIVERSAL ASBESTOS MANFG. CO., LTD. Stand B 722.

Many of the recent developments in asbestos-cement goods for the building trade are shown here. The display includes reinforced asbestos-cement corrugated sheets; ordinary asbestos-cement corrugated, "Super-Six," "Twin-Twelve" and flat sheets; "Watford" tiles, slates, pantiles, decorated sheets, rainwater gutters, down pipes, bath panels, draining boards, etc.

WALSALL CONDUITS, LTD. Stand C 729.

The claims of this firm to be "the complete conduit organisation," is borne out by an inspection of the display on this stand. To be seen are steel conduits of every grade and fittings and accessories of every type. Switch-boxes, fuseboards, lighting equipment, flame-proof conduit system, metal-sheathed wiring system and electric heating appliances are some of the goods on view.

WHARF LANE CONCRETE CO., LTD. Stand A 731.

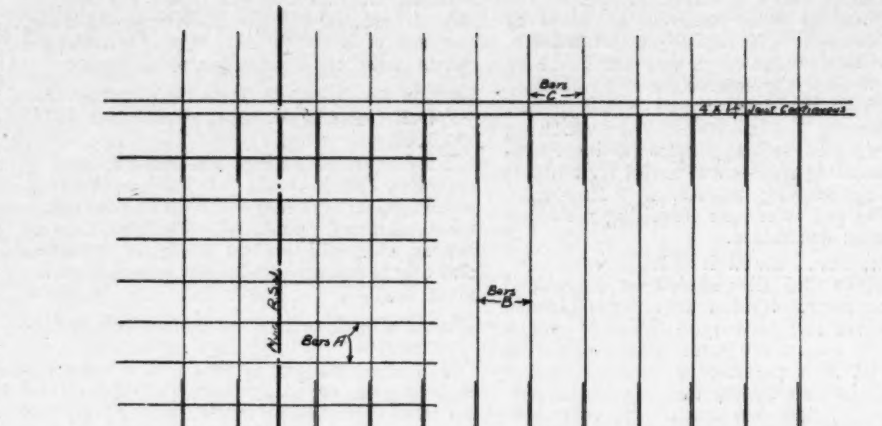
This firm is showing "Minster" fireplaces in period and modern designs to suit any decorative scheme. A wide variety of reconstructed stones is available for these fireplaces, including Ham Hill, Purbeck, Kent rag and green granite. These rub up with excellent surfaces. Some delightful exhibits are on view.

WILLIAMS AND WILLIAMS, LTD. Stand B 324.

There are to be seen on this attractive stand, a representative range of Williams and Williams' British-made "Reliance" metal windows and doors. The firm produce and display a type for every kind of structure, including public buildings, factories, schools and residences.

WINGET, LTD. Stand D 1201, Outdoor.

This firm are showing for the first time a new model of their open tilting-drum mixer. It is of the portable engine-driven design with pivot-type side loader and patent tilting water tank, and is of the 6/4 size. In addition to the above, a representative range of other "Winget" mixers is being exhibited which includes one of their closed-drum types. Also shown is a new roller-pan mixer (see this page) for sand-lime and sand-cement mortar, which, it is claimed, is far in advance of anything yet seen on the market.



SECTION OF PANEL

A FLOOR TEST.

THE "WINGET" ROLLER-PAN MIXER

W. C. YOUNGMAN. Stand A 712.

Builders wishing to replenish their stock of plant should inspect the display on this stand. The plant shown includes "Challenger" extension ladders, "Warrior" extension ladders, "Conqueror" extension ladders, builders' ladders, painters' steps, painters' trestles, "Challenger" garden barrows, and navvy barrows.

A FLOOR TEST

The accompanying illustration shows the test of an office floor over a factory, the load required to be provided for being 50 lb. per foot super. In the test in question a load of 225 lb. per sq. ft. was placed upon the slab before the deflection limit under working load, in this case .28 in., required by the L.C.C. Code of Practice, was reached. In connection with this test, Mr. Wm. G. Shipwright, M.I.Struct.E., writes as follows: "In all my constructions I base my calculations on the continuity value of the slab over the main support, and the joists, also continuous, as carrying the lesser moment in the centre of the span, regard being given to the depth of the joist in the slab, in accordance with tests made by Mr. Basil Scott, of Messrs. Redpath, Brown and Co., Ltd., and myself at the National Physical Laboratory, Teddington. I have, in fact, previously thoroughly tested out both of these principles, and the present instance is a justification of my methods. As this proposed construction gave rise to a great deal of criticism, I am led to the conclusion that very few people appreciate the value of continuity in flooring construction, and the effective increase in the strength of the joist in relation to the depth in which it is bedded in the concrete. Actually I have found in test that this is about equal to the relative square of the depth, that is to say, 4-in. joist bedded 1 in. below the surface of the floor will have an increased value equal to $\frac{5^2}{4^2}$ or $\frac{25}{16}$ roughly 50 per cent. increase."

Mr. Thomas Long.

The death is reported of Mr. Thomas Long, the founder of the building firm of Messrs. Thomas Long and Sons, Ltd., of Nottingham-road. Mr. Long, who was 87 years of age, went to Nottingham from Witney, Oxfordshire, in 1873, and founded the business, of which he was the head, in 1878. His firm carried out a number of important buildings in the North Midlands.

The Norman Castle Keep, Canterbury.

Canterbury's Norman castle keep has now been repaired, and was recently opened to the public. Sir Charles Peers, who performed the ceremony, congratulated the city on ensuring the preservation of the keep and on the splendid way it had been repaired. The interior of the keep has been laid out as a lawn, and a spiral staircase has been constructed to reach the top of the wall.

NEW BUILDINGS IN LONDON

ALBERT EMBANKMENT.—HEADQUARTERS.—A contract for the construction of raft foundations, etc., for the new fire brigade headquarters on Albert Embankment has been placed by the L.C.C. with Messrs. Gee, Walker and Slater, Ltd., 32, St. James's-street, S.W.1, who tendered at £14,825. A list of contractors is on page 1000.

BARKING.—EXTENSIONS.—County of London Electric Supply Co., Ltd., 46-47, New Broad-street, E.C.2, are to proceed with further large extensions to their Barking Power Station. The contract for the foundation and piling works has been placed with Messrs. Concrete Piling, Ltd., 28, Victoria-street, S.W.1, whilst the steel framework will be erected by the Cleveland Bridge and Engineering Co., Ltd., 123, Pall Mall, S.W.1. The plans are by the company's consulting engineers, Sir Alexander Gibb and Partners, Queen Anne's Lodge, S.W.1, in conjunction with Messrs. Merz and McLellan, 32, Victoria-street, S.W.1.

BATTERSEA.—SCHOOL.—The L.C.C. are to pay the cost to transfer Battersea Grammar School to a new site at Drewstead-road, Streatham. Plans for the new building, which will cost £55,000 and will accommodate 500 boys, have been prepared by Mr. J. E. K. Harrison, A.R.I.B.A., 44, Thurleigh-road, S.W.12. No contracts placed.

BEDDINGTON.—LIBRARY.—A new library is to be erected by the Beddington and Wallington U.D.C. at a cost not exceeding £20,000. Plans will be by Mr. R. Atkinson, F.R.I.B.A., 126, Wigmore-street, W.1, and Mr. C. E. Kenney, F.S.I., 8, Princes-street, W.1, has been appointed as quantity surveyor. The site is at the rear of the new Town Hall.

BETHNAL GREEN. — DWELLINGS. — The Architect, County Hall, S.E.1, has prepared plans for the erection of 90 dwellings and a workshop on the Hollybush Gardens site, for which a contract has been placed with Messrs. H. C. Horswill, Ltd., 182, Green-street, E.7, who tendered at £30,980. A list of tenders is on page 1000.

BRIXTON.—FLATS.—A contract for the erection of a block of reinforced concrete flats at 50-52, Brixton Hill, S.W., has been placed with Messrs. J. L. Kier and Co., Ltd., 36, Victoria-street, S.W.1. The architect is Mr. E. D. Griffiths, 34, Wilton-place, S.W.1.

BROMLEY.—SCHOOL.—The T.C. are proposing to purchase a site to the south-east of the "Crooked Billet," Southborough, for the erection of a public elementary school.

BROMLEY.—SCHOOL.—The T.C. invite tenders by June 15 for structural alterations at the Raglan-road council school. Specifications, on deposit of £2 2s., from Mr. F. H. Wood, P.A.S.I., the quantity surveyor, at 19, Charing Cross-road, W.C.2.

BRUNSWICK-SQUARE.—HEADQUARTERS.—The Pharmaceutical Society, Bloomsbury-square, W.C.1, are to have new premises erected. The preliminary estimates indicated a cost of £195,000. No architect yet appointed.

CHELSEA.—HOSPITAL EXTENSIONS.—A contract for the erection of new X-ray, antenatal and receiving departments at St. Stephen's Hospital, Chelsea, has been placed by the L.C.C. with Messrs. H. and J. Taylor, Canada House, Hither Green-lane, S.E.13, at £12,964. Plans have been prepared by the Architect, County Hall, S.E.1. A list of tenders is on page 999.

CHISWICK. — EXTENSIONS. — The London Demolition Co., Ltd., 575, London-road, Isleworth, are demolishing premises in Essex-place, Chiswick High-road, W.4, for Messrs. Whitbread and Co., Ltd., 27, Britannia-street, E.C.1, who are to extend their bottling store.

COULSDON.—SCHOOL.—The Surrey C.C. are to provide a new public elementary school for about 240 children in Keston-avenue.

DARTFORD.—EXTENSIONS.—The Dartford Joint Hospital Committee contemplate erecting additions to the Infectious Diseases Hospital in Bow and Arrow-lane, and invite tenders.

DEVONSHIRE-STREET.—REBUILDING.— Of their women's hostel at No. 35 is contemplated by the Cecil Houses, Inc., 11, Golden-square, W.1. No contracts placed. The architects are Messrs. Knott and Collins, 9, Newcomen-street, S.E.1.

DOWNHAM. — LIBRARY AND BATH.— Lewisham B.C. propose the erection of a public library and swimming bath at Durham Hill, Downham, and invite applications from builders desiring to tender, by June 7, with deposit of £2 2s. Applications must be made on a form obtainable from Mr. John W. Shuter, Town Clerk, Town Hall, Catford, S.E.6.

EALING.—HOUSES.—Mr. A. J. Marshall is to erect 41 houses at Worcester-gardens, Rothesay-avenue, and Curey-road, to plans prepared by Mr. F. W. Field, "Coram Cot," 7, The Close, Rayners-lane, Pinner.

EALING.—FLATS.—A block of 45 flats is to be erected at Eaton Rise and Montpelier-road by Messrs. W. H. Read and Co., Ltd., 41 and 42, Haven Green, W.5.

EALING.—FLATS.—Mr. F. Byford is to erect a block of 80 flats, at Haven Green, to plans prepared by Mr. S. H. West, 40, The Broadway, W.5.

EALING.—HOUSES.—Messrs. Swannell and Sly, architects, have prepared plans for 47 houses in Girton-road, by the Hillingdon Estate Co.

EALING. — VICARAGE. — Mr. E. Maufe, F.R.I.B.A., has prepared plans, for the Ecclesiastical Commissioners, for a vicarage in connection with the Church of St. Thomas The Apostle, Boston-road.

EALING.—SCHOOLS.—Sketch plans for five new schools were approved by the Ealing E.C., for submission to the Board of Education. The proposed new buildings are as follows:—A senior girls' school at Perivale, where there is at present only a two-department school; infants' and mixed schools on the Cuckoo Estate, North Hanwell, to serve the houses to be erected by the L.C.C.; infants' and junior mixed schools at West Northolt. As it is proposed eventually to provide three school departments at West Northolt, the Borough Surveyor was instructed to negotiate for the purchase of an additional acre and a half of land there.

BUSH HOUSE
EXTENSION

MARBLE & QUARZITE

JOHN STUBBS & SONS
64-70 VAUXHALL BRIDGE ROAD SW1
272 CROWN STREET LIVERPOOL 7

EALING.—EXTENSIONS. — The Associated Talking Pictures, Ltd., Wardour-street, W.1, are considering the erection of an additional sound stage at their studios at Ealing Green, W.5. The plans are being prepared by Mr. Robert Atkinson, F.R.I.B.A., 13, Manchester-square, W.1.

EDMONTON.—EXTENSION.—The Beautility Furniture, Ltd., Angel-road, N.18, have acquired an adjacent site of three acres for large extensions to their factory. No plans completed yet.

EDMONTON.—SCHOOL.—An elementary school, with caretaker's cottage, is to be erected at Galliard-avenue, N.9, by the E.C. Plans are by Messrs. Talbot Brown and Fisher, F.S.A., F. and L.R.I.B.A., Burystead-place, Wellingborough, Northants, to whom builders wishing to tender must apply, with £2 2s. deposit for quantities, by May 31.

ELTHAM.—EXTENSIONS.—Are projected at the "Yorkshire Grey" public-house, Eltham-road, S.E.9, consisting of a large assembly hall, to cost about £10,000. Plans by Mr. S. A. S. Yeo, F.R.I.B.A., 56, Station-chambers, Turnmill-street, E.C.1. Contracts not yet arranged.

ELTHAM.—BUILDING.—The Trussed Concrete Steel Co., Ltd., Thames-house, S.W.1, are reinforced concrete engineers and constructors for a building proposed at 145-147, High-street, Eltham.

FINCHLEY.—EXTENSIONS.—And alterations to be made to their premises, High-road, N.12, by Advance Laundries, Ltd., 118, New Oxford-street, W.1. The contract has been let to Messrs. Truett and Steel, Ltd., 71, High-road, Thornton Heath, Surrey. The architect is Mr. R. A. Hinds, F.R.I.B.A., 8, Duke-street, Adelphi, W.C.2.

FINSBURY.—BUILDING.—Plans for a reinforced concrete building at Winchester-road, Finsbury, next to Pentonville-road, have been prepared by Sir E. Owen Williams, K.B.E., 5, St. George's-road, S.W.1. A contract has been placed with Messrs. W. J. Cearns, Ltd., Carpenter's-road, E.15.

FULHAM PALACE-ROAD.—VICARAGE.—Messrs. W. J. Marston and Son, 87, Wandsworth Bridge-road, S.W.6, are building a new vicarage in Fulham Palace-road, near Putney Bridge, S.W., for the Parochial Church Council of All Saints. The architect is Mr. A. Blomfield Jackson, 3, New-square, Lincoln's Inn, W.C.2.

GREAT QUEEN-STREET.—REBUILDING.—Of the large premises at Nos. 12-14, is contemplated, the demolition work being now in hand. The architects are Messrs. Riley and Glanfield, FF.R.I.B.A., 6, Raymond-buildings, Gray's Inn, W.C.

GREENFORD.—HOUSES.—Messrs. B. Smith and Son (Builders), Ltd., are to proceed with the development of part 5 of the Greenford Estate by the erection of 163 houses. The architect is Mr. J. M. Wilson, Western-chambers, Station Approach, Hayes.

GREENFORD. — FLATS. — Messrs. E. H. Williams, Deacon and Co., 69, Moorgate, E.C.2, acting for Mr. G. Wilby, have submitted plans for a block of 18 flats, 12 garages and cloakroom at Ruislip-road. The plans have been approved.

HAMMERSMITH.—SCHOOL.—The Burlington (Girls) School, Boyle-street, W.1, is to be rebuilt at Du Cane-road, North Hammersmith, at an estimated cost of £60,372. Plans have been prepared by Sir John Burnet, Tait and Lorne, 3, Montague-place, W.C.1.

HAMMERSMITH.—HOUSING.—L.C.C. propose to acquire for housing purposes a 50-acre site at Westway and Bloemfontein-road. The cost of acquisition and partial development is £500,000. Plans will be by the Architect, County Hall, S.E.1.

HAMMERSMITH-ROAD. — School.—The L.C.C. proposes to rebuild the West Kensington Central School, William-street, opposite Olympia.

HANWELL.—Housing.—L.C.C. are to ask Minister of Health's approval to certain proposals in regard to the cottage estate proposed to be erected at Hanwell. About 1,668 houses and flats and two schools are contemplated, to plans by the Architect, County Hall, S.E.1.

HIGHGATE-ROAD.— School.— The William Ellis School, Allcroft-road, N.W.5, is to be rebuilt on a site in Highgate-road, St. Pancras, at a cost of £58,665. Plans have been prepared by Major H. P. G. Maule, F.R.I.B.A., 12, Stratford-place, W.1. No contracts placed.

HORNCHURCH.—Institution.—For additions at Sutton's Branch Institution, Hornchurch, to provide 430 additional beds, for Essex C.C., the contract is with Messrs. Harold Arnold and Sons, Ltd., of Doncaster, who tendered at £216,616.

ILFORD.—Flats.—The contract for the erection of 78 high-class flats in Breamore-road has been placed with Mr. Albert Monk, Lower Edmonton, N.9. The architect is Mr. H. W. Binns, F.S.I., 23, Bloomsbury-square, W.C.1.

ISLINGTON.—Housing.—The scheme approved by the B.C. for the erection on the site of Stanley Lodge, Warltersville-road, of dwellings for working classes provides for 122 dwellings, at £63,000. The architect is Mr. E. C. P. Monson, F.R.I.B.A.,, and the quantity surveyor is Mr. F. N. Falkner.

KENNINGTON.—School.—The L.C.C. propose the erection of an elementary school at Vassall-road, to plans by the Architect, County Hall, Westminster Bridge-road, S.E.1. A contract at £30,203 has been placed with Messrs. W. H. Gaze and Sons, Ltd., Kingston-on-Thames.

KINGSBURY.—School.—The B. of E. have given their provisional approval to plans for the new junior mixed and infants' school at Springfield, Kingsbury, to replace the present Kingsbury-road school. The plans include 13 classrooms and one classroom and playroom for infants, to accommodate 678 children. The work is for the Middlesex C.C., and the tender of £22,042 submitted by Mr. W. S. Try, of Uxbridge, has been accepted. The plans are by the County Architect, Mr. W. T. Curtis, F.R.I.B.A., 10, Great George-street, S.W.1.

MOORFIELDS.—Reconstruction. — After fire is to be effected at No. 23, White-street, E.C., to plans by Mr. F. Malcolm Burr, L.R.I.B.A., 30, Finsbury-square, E.C.2.

NORTH KENSINGTON.—Flats.—The Peabody Donation Trust, 15, Buckingham-street, W.C.2, shortly to proceed with a further large block of tenements on the Dalgarno-gardens estate, to accommodate 550 persons. The architect to the Trust is Mr. Victor Wilkins, F.R.I.B.A., 12, York-buildings, Adelphi, W.C.

NORTH KENSINGTON.—Nurses' Home.—A contract for the erection of a new nurses' home, etc., at St. Charles' Hospital, Ladbroke-grove, has been placed by the L.C.C. with the Anglo-Scottish Construction Co., Ltd., 68, Victoria-street, S.W.1. Plans are by the Architect's Department, County Hall, S.E.1. A complete list of tenders is on page 1000.

NORTHOLT.—Shops. — Mr. W. Henden Winder, 10, Kingley-street, W.1, has prepared plans for the erection by Mr. E. G. Mearle of 9 shops with 10 flats over, and a block of 18 flats in Windmill-road and Little Ealing-lane.

NORTHOLT. — Shops. — Amended plans have been approved for the proposed shops and flats in Church-road. The architect is Mr. A. P. Starkey, Westminster Bank-chambers, Station-road, Harrow-on-the-Hill.

NORTHWICK PARK. — Additions.— Northwick Park Golf Club propose to make alterations and additions to their clubhouse in Watford-road. Plans are by Mr. H. I. Merriman, F.R.I.B.A., 4, Staple Inn, Holborn, W.C.1, and a contract is about to be placed.

PADDINGTON.—Rehousing.—The Ecclesiastical Commission, in conjunction with the Paddington Estate Trustees, are to shortly commence a rehousing scheme on a 3-acre site. The site will be used for the erection of flats accommodating about 1,000 persons. The plans are in the hands of Messrs. Clutton, 5, Great College-street, S.W.1.

PERIVALE.—Flats.—Mr. H. J. Mark, 63, Mason's-avenue, Wealdstone, has submitted lay-out plans for the proposed erection of a block of 30 flats, and 4 shops with 8 flats over at Hanger-lane and Station-road.

PERIVALE. — Factory. — Messrs. Percy Bilton (Properties), Ltd., 113, Park-street, W.1, have submitted plans for a factory in Wadsworth-road for the Philco Radio and Television Corporation, Ltd.

PLAISTOW.—Extension.—The West Ham E.C. are inviting tenders for the erection of a new dining-room and kitchen at the Plaistow municipal secondary school, Prince Regent's-lane, E.13. Mr. John H. Jacques, F.R.I.B.A., Architect to the Committee, 61, West Hamlane, Stratford, E.15, has prepared the plans.

PONDERS END.—Exchange.—H.M.O.W. Architect's Department, Storey's-gate, S.W.1, have prepared plans for the erection of a telephone exchange. Work will begin at once, a contract having been placed with Messrs. L. T. Buckley, Ltd., 14-16, Regent-street, S.W.1.

ST. JOHN-STREET.—Warehouse Building.—Sir E. Owen Williams, K.B.E., 5, St. George's-road, S.W.1, has prepared plans, approved by the L.C.C., for a warehouse building of flat slab construction on the eastern side of St. John-street, Finsbury. No contracts placed.

ST. PANCRAS.—Building.—Plans have been prepared by Messrs. Connell and Ward, A.R.I.B.A., 25, Grosvenor-place, S.W.1, for a reinforced concrete building at 13-17, Ferdinand-street, for which a contract will be placed within a month.

SHOE-LANE. — Building. — Plans have been prepared by Sir E. Owen Williams, K.B.E., 5, St. George's-road, S.W.1, for a reinforced concrete building in flat slab construction upon a site abutting on Shoe-lane and Plumtree-court, E.C.4. No contract let.

SOUTHGATE.—School. — A contract for the erection of an elementary school at Green-road, for Middlesex E.C., has been placed with Messrs. J. Stewart and Sons, of Tottenham, who tendered at £26,132. Plans are by the County Architect's Department, 10, Great George-street, S.W.1.

STAMFORD-STREET.— Addition. — The contract for the large warehouse on a corner site adjacent to Messrs. Boots Pure Drug Co's, Ltd., London Depot is with Messrs. Holloway Bros. (London), Ltd., Bridge Wharf, Millbank, S.W.1. Plans by Messrs. Henry Tanner, 3, Hanover-square, W.1.

STREATHAM.—Flats. — Messrs. E. A. Thorn and Son, 1, Rosehill-parade, Rosehill, Sutton, are builders for block of 27 flats in Leigham Court-road, S.W. Plans by Mr. H. W. Binns, F.S.I., 23, Bloomsbury-square.

SURBITON. — School.—The Surrey E.C. are to proceed with the erection of a central school for 360 children and a school for 384 junior mixed and infants at Chessington Moor-lane site. Messrs. Jarvis and Richards, 8a, Lower Grosvenor-place, S.W.1, are the architects to the E.C.

TEDDINGTON. — Enlargement. — The Middlesex E.C. are inviting tenders for the enlargement of the Stanley-road council school, from plans prepared by Mr. W. T. Curtis, F.R.I.B.A., County Architect, 10, Great George-street, S.W.1.

TWICKENHAM.—Shops.—And flats to be built in London-road, to plans by Mr. P. W. Davis, A.R.I.B.A., 30, Bedford-gardens, Campden Hill, W.8. Contractors are Messrs. Walker (Tooting), Ltd., 39, Defoe-road, Tooting, S.W.

WANDSWORTH. — Enlargement. — The Stores Depot is to be enlarged and a house is to be erected for the L.C.C., whose architect has prepared plans. A building contract at £17,720 has been placed with Messrs. J. and C. Bowyer, Ltd., Westow-street, S.E.19. A full list of tenders is on page 1001.

WATFORD.—R.C. Works.—The T.C. propose an extension in reinforced concrete to the present electricity works, Cardiff-road, Watford, and are now inviting tenders, returnable by June 8. Quantities, etc., on deposit of £2 2s., from Mr. A. W. Barham, Chief Engineer, Electricity Works, Cardiff-road, Watford.

WEMBLEY.—Shops.—And garages are to be built in East-lane, to the plans of Messrs. Luck, Bennett and Luck, 329, High Holborn, W.C.1. The contractor is Mr. G. Worboys, 4, London-road, Wembley.

THE NATIONAL PHYSICAL LABORATORY

REPORT FOR 1934.

The National Physical Laboratory, which was founded at Teddington in 1900, is now a large institution occupying 14 large buildings in grounds of some 50 acres, and with a staff exceeding 600. It is devoted to research and test work in the various branches of physics and engineering, as heat and refrigeration, sound, optics, radiology, electricity and magnetism, radio, fine measurements, mechanical engineering, metallurgy, aerodynamics, and ship design. It is responsible for, or assists in, the maintenance of the majority of the official physical standards of the country, *e.g.*, length, mass, temperature, candle-power, and the electrical standards. The Laboratory is a Government Institution under the Department of Scientific and Industrial Research. Since its foundation the Laboratory has played an important part in the development of British industry.

The report of the Laboratory for 1934 was published by H.M. Stationery Office last week (260 pp. quarto, 59 illustrations, price 13s. net). We extract from it the following notes relating to subjects of interest to the building industry :—

Acoustical Laboratory.—The report contains a detailed description of the new acoustical laboratory. The technical difficulties to be overcome in designing an acoustical laboratory are of a somewhat unusual nature. The experimental rooms must be isolated both acoustically and electrically, and must be such that regular standing-wave patterns cannot be set up in them. Consequently, the inner shell (14 in. thick) of each room has been made independent of the outer shell, and the rooms rest on cork attached to piers on foundations independent of those for the outer shell. Electric supplies are led into the experimental rooms by means of flexible leads across the gap between the double walls, whilst to further the aim of complete isolation the building is heated by passing warmed air into the space between the walls.

To prevent standing waves, the rooms are asymmetric both in plan and elevation, whilst a warble note, rather than a source of constant frequency, is used in much of the work. At present the building consists of one story only, but it is hoped to add another shortly, so that tests can be made on floors and flooring materials under practical conditions.

Application of Electric Welding to Buildings and Structures.—During the past few years marked advances have been made in the use of electric welding in place of riveting for all forms of steel construction. There is no doubt that economy in construction can be obtained by welding; the noise of riveting is also eliminated, a matter of some importance, for example, in erecting steel-framed buildings in crowded residential districts. This relatively new method of construction has received attention at the Laboratory for two or three years, and with the help of the welding industry rapid progress is now being made in a co-operative investigation which should provide data on the general reliability of welding as applied to steel-framed buildings and structures. Over 60 British welding firms have welded a number of large test plates under specified conditions, and these are now being tested at the Laboratory. In all, nearly 2,000 complete mechanical tests on welds are being made, and the results should permit an authoritative pronouncement to be made on the use of electric welding in the erection of steel structures in this country.

RATES OF WAGES IN THE BUILDING TRADE

AS AND FROM 1st FEBRUARY, 1935.

[Every endeavour is made to ensure accuracy, but we cannot be responsible for errors.]

	Crafts-men.	Lab-ourers.
Aberdare	1/5	1/0½
Abergavenny	1/5	1/0½
Abingdon	1/4	1/0
Accrington	1/5½	1/1½
Aldeburgh	1/1½	10¼
Aldershot	1/2½	11
Alfreton	1/5½	1/1½
Alnwick	1/5	1/0½
Altrincham	1/5½	1/1½
Amble	1/5	1/0½
Amersham	1/3½	11¾
Ammanford	1/5½	1/1½
Andover	1/2½	11
Ardingley	1/3½	11¾
Arundel	1/3	11¼
Ascot	1/3½	11¾
Ashby-de-la-Zouch	1/4	1/-
Ashford (Kent)	1/2½	11
Ashford (Middx.)	1/4½	1/0½
Ashington	1/5	1/0½
Ashtead	1/4	1/-
Ashton-under-Lyne	1/5½	1/1½
Aylesbury	1/3	11¼
Aylsham	1/2½	11
Bagshot	1/2½	11
Banbury	1/3	11¼
Barnsley	1/5½	1/1½
Barnstaple	1/3½	11¾
Barrow-in-Furness	1/5½	1/1½
Barry	1/5½	1/1½
Basingstoke	1/3	11¼
Bath	1/4½	1/0½
Batley	1/5½	1/1½
Beaconsfield	1/3½	11¾
Beccles	1/2	10½
Bedford	1/4½	1/0½
Berkhamsted	1/3	11¼
Berwick	1/4½	1/0½
Beverley	1/5½	1/1½
Bexhill-on-Sea	1/3½	11¾
Bideford	1/3½	11¾
Biggleswade	1/3	11¼
Billericay	1/3	11¼
Birchington	1/3	11¼
Birkenhead	1/7†	1/2½
Birmingham	1/5½	1/1½
Bishop Auckland	1/5	1/0½
Bishops Stortford	1/4	1/0
Blackburn	1/5½	1/1½
Blackpool	1/5½	1/1½
Blyth	1/5½	1/1½
Bognor Regis	1/3	11¼
Bolton	1/5½	1/1½
Bournemouth	1/4½	1/0½
Bracknell	1/3	11¼
Bradford	1/5½	1/1½
Bradford-on-Avon	1/2½*	11
Braintree	1/3½	11¾
Brentwood	1/5	1/0½
Bridgwater	1/3½	11¼
Bridlington	1/5	1/0½
Brighouse	1/5½	1/1½
Brighton	1/4½	1/0½
Bristol	1/5½	1/1½
Broadstairs	1/3	11¼
Bromsgrove	1/4½	1/0½
Buckley	1/5½	1/1½
Bungay	1/1½	10½
Burnham-on-Crouch	1/2	10½
Burnley	1/5½	1/1¼
Burslem	1/5½	1/1½
Burton-on-Trent	1/5½	1/1½
Bury	1/5½	1/1¼
Bury St. Edmunds	1/3	11¼
Buxton	1/5	1/0½
Byfleet	1/3½	11¾
Cambridge	1/5	1/0½
Canterbury	1/3	11¼
Cardiff	1/5½	1/1½
Carlisle	1/5½	1/1½
Carnforth	1/5½	1/1½
Castleford	1/5½	1/1½
Caterham	1/4	1/-
Chard	1/2½*	11
Chatham	1/4	1/-
Chelmsford	1/4	1/-
Cheltenham	1/4	1/-
Chepstow	1/4½	1/0½
Chertsey	1/4	1/-
Chester	1/5½	1/1½
Chesterfield	1/5½	1/1½
Chichester	1/3	11¼
Chorley	1/5½	1/1½
Cirencester	1/3*	11¼
Clacton	1/3½	11¾
Cleveleys	1/5½	1/1½
Clitheroe	1/5½	1/1½
Cobham	1/4	1/-
Colchester	1/4½	1/0½
Colwyn Bay	1/4½	1/0½
Congleton	1/5	1/0½
Coventry	1/5½	1/1½
Cranbrook	1/2	10½
Cranleigh	1/2½	11
Crawley	1/3½	11¾
Crewe	1/4½	1/0½
Cromer	1/2½	11
Crowborough	1/3½	11¾
Cuckfield	1/3½	11¾
Darlington	1/5½	1/1½
Darwen	1/5½	1/1½
Daventry	1/4	1/-
Deal	1/3	11¼
Denbigh	1/4	1/-
Derby	1/5½	1/1½
Devizes	1/2*	10½
Dewsbury	1/5½	1/1½
Didcot	1/3½	11¾
Diss	1/2	10½
Doncaster	1/5½	1/1½
Dorchester	1/3*	11¼
Dorking	1/3½	11¾
Dover	1/3	11¼
Dovercourt	1/3½	11¾
Driffield	1/4	1/-
Droitwich	1/4½	1/0½
Dudley	1/5½	1/1½
Dunstable	1/3½	11¾
Durham City	1/5½	1/1½
Eastbourne	1/4½	1/0½
E.Glam.(Mon.Val.)	1/5	1/0½
East Grinstead	1/3½	11¾
Edenbridge	1/3½	11¾
Ely	1/2	10½
Epping	1/4½	1/0½
Exeter	1/4½†	1/0½
Exmouth	1/3½	11¾
Fakenham	1/2	10½
Falmouth	1/4	1/-
Fareham	1/3	11¼
Faversham	1/2½	11
Felixstowe	1/4	1/-
Filey	1/4	1/-
Fleetwood	1/5½	1/1½
Flint	1/5	1/0½
Folkestone	1/3	11¼
Frinton-on-Sea	1/3½	11¾
Frome	1/2½*	11
Gainsborough	1/4½	1/0½
Gateshead	1/5½	1/1¼
Gillingham	1/4	1/0
Glossop	1/5	1/1½
Gloucester	1/4½†	1/0½
Godalming	1/3½	11¾
Goole	1/4½	1/0½
Gosport	1/4½	1/0½
Grantham	1/4	1/-
Gravesend	1/5	1/0½
Gt. Yarmouth	1/3½	11¾
Grimsby	1/5½	1/1½
Guildford	1/3½	11¾
Guilsborough	1/4	1/-
Halifax	1/5½	1/1¼
Hanley	1/5½	1/1½
Harpenden	1/4	1/-
Harrogate	1/5½	1/1½
Hartlepools	1/5½	1/1½
Harwich	1/3½	11¾
Haslemere	1/2½	11
Hastings	1/3	11¼
Hatfield	1/4½	1/0½
Haywards Heath	1/3½	11¾
Hednesford	1/5	1/0½
Hemel Hempstead	1/4½	1/0½
Henley	1/3½	11¾
Hereford	1/3½*	11¾
Herne Bay	1/3	11¼
Hertford	1/4½	1/0½
Heysham	1/5½	1/1¼
Hitchin	1/4	1/-
Hoddesdon	1/4½	1/0½
Holt	1/1½	10¾
Horley	1/3	11¼
Horsham	1/3	11¼
Horwich	1/5½	1/1½
Huddersfield	1/5½	1/1½
Hull	1/5½	1/1½
Hunstanton	1/2	10½
Huntingdon	1/2½	11
Ilfracombe	1/3½	11¾
Ingatestone	1/3	11¼
Ipswich	1/4½	1/0½
Isle of Thanet	1/3	11¼
Isle of Wight	1/2½	11
Keighley	1/5½	1/1½
Kenilworth	1/5½	1/1½
Kettering	1/5	1/0½
Kidderminster	1/4½	1/0½
King's Lynn	1/3	11¼
Kirkham	1/5½	1/1½
Knowle	1/5	1/0½
Lancaster	1/5½	1/1½
Leamington	1/5	1/0½
Leatherhead	1/4½	1/0½
Leeds	1/5½	1/1½
Leicester	1/5½	1/1½
Leighton Buzzard	1/2½	11
Letchworth	1/4	1/-
Lewes	1/2	10½
Lichfield	1/4½	1/0½
Lincoln	1/5½	1/1½
Littlehampton	1/3	11¼
Liverpool	1/7‡	1/2½
Llandudno	1/4½	1/0½
Llanelly	1/5½	1/1½
London—		
12 m. radius	1/7*	1/2½
12-15 m. radius	1/6½*	1/2
Long Eaton	1/5½	1/1½
Longton	1/5½	1/1½
Loughborough	1/5½	1/1½
Louth	1/4	1/-
Lowestoft	1/3½	11¾
Luton	1/5	1/0½
Macclesfield	1/5	1/0½
Maidenhead	1/4	1/-
Maidstone	1/4	1/-
Malvern	1/4	1/-
Manchester	1/5½	1/1¼
Manningtree	1/2	10½
Mansfield	1/5½	1/1¼
March	1/2½	11
Margate	1/3	11¼
Market Harborough	1/4½	1/0½
Matlock	1/4	1/-
Melton Constable	1/1½	10½
Melton Mowbray	1/4½	1/0½
Merthyr Tydfil	1/5	1/0¾
Middlesbrough	1/5½	1/1½
Middleton	1/5½	1/1¼
Middlewich	1/4½	1/0½
Milford Haven	1/3½	11¾
Morecambe	1/5½	1/1¼
Morley	1/5½	1/1½
Mundesley	1/2½	11
Nantwich	1/4½	1/0½
Newark-on-Trent	1/4½	1/0½
Newbury	1/3	11¼
Newcastle-on-Tyne	1/5½	1/1¼
Newcastle-u.-Lyme	1/5½	1/1½
New Forest	1/2½	11
Newmarket	1/3½	11¾
Newport, Mon.	1/5½	1/1½
Newport Pagnell	1/2½	11
Northampton	1/5½	1/1½
Norwich	1/5	1/0½
Nottingham	1/5½	1/1½
Nuneaton	1/5½	1/1½
Oakham	1/4	1/-
Oldham	1/5½	1/1½
Ormskirk	1/5½	1/1½
Oxford	1/5	1/0¾
Oxted	1/2½	11
Paignton	1/5	1/0½
Peterborough	1/5	1/0½
Plymouth	1/5½†	1/1½
Pontypridd	1/5	1/0¾
Portsmouth	1/4½	1/0½
Port Talbot	1/5½	1/1½
Preston	1/5½	1/1½
Pulborough	1/2	10½
Ramsgate	1/3	11¼
Reading	1/4½	1/0½
Redcar	1/5½	1/1½
Redditch	1/4½	1/0½
Redhill	1/3½	11¾
Reigate	1/3½	11¾
Retford	1/4	1/-
Ripon	1/4	1/-
Rochdale	1/5½	1/1¼
Rochester	1/4	1/0
Rugby	1/5½	1/1½
Saffron Walden	1/2	10½
St. Albans	1/5	1/0½
St. Helens	1/5½	1/1½
St. Neots	1/2½	11
Salisbury City	1/2½*	11
Salisbury Plain	1/2½*	11
Sawbridgeworth	1/3½	11¾
Saxmundham	1/1½	10¼
Scarborough	1/5	1/0½
Selby	1/5½	1/1½
Sevenoaks	1/4	1/-
Sheerness	1/3	11¼
Sheffield	1/5½	1/1¼
Shipley	1/5½	1/1¼
Shoeburyness	1/5	1/0½
Shoreham	1/4	1/-
Shrewsbury	1/4½	1/0½
Sittingbourne	1/2½	11
Skegness	1/4½	1/0½
Sleaford	1/4	1/-
Slough	1/4½	1/0½
Southampton	1/4½	1/0½
Southend on Sea	1/5	1/0½
Southport	1/5½	1/1½
South Shields	1/5½	1/1½
Spalding	1/3	11¼
Stafford	1/5	1/0½
Staines	1/4½	1/0½
Stamford	1/4	1/-
Stevenage	1/4	1/-
Stockport	1/5½	1/1½
Stockton-on-Tees	1/5½	1/1½
Stoke-on-Trent	1/5½	1/1½
Stourbridge	1/5	1/0½
Stourport	1/4½	1/0½
Stowmarket	1/2	10½
Stratford-on-Avon	1/4	1/-
Stroud	1/4†	1/-
Sunderland	1/5½	1/1½
Sutton Coldfield	1/5½	1/1½
Swaffham	1/1½	10¼
Swanage	1/3½*	11¾
Swansea	1/5½	1/1½
Swindon	1/4*	1/-
Tamworth	1/5	1/0½
Taunton	1/3½	11¾
Tenterden	1/2½	11
Tewkesbury	1/4*	1/-
Thetford	1/2	10½
Thorpe Bay	1/5	1/0½
Todmorden	1/5½	1/1½
Tonbridge	1/4	1/0
Torquay	1/5	1/0½
Totnes	1/3½†	11¾
Trowbridge	1/2½*	11
Truro	1/2½	11
Tunbridge Wells	1/4	1/-
Uppingham	1/4	1/-
Uttoxeter	1/4	1/-
Wakefield	1/5½	1/1¼
Walsall	1/5½	1/1½
Walsden	1/5½	1/1½
Walton-on-Naze	1/3½	11¾
Ware	1/4½	1/0½
Warminster	1/2½*	11
Warrington	1/5½	1/1½
Warwick	1/5	1/0½
Wellingborough	1/5	1/0½
Wells (Norfolk)	1/1½	10¼
Welwyn	1/4½	1/0½
Welwyn Gar.City	1/5½	1/1½
West Bromwich	1/5½	1/1½
Westcliff-on-Sea	1/5	1/0½
Weston-super-Mare	1/4½	1/0½
Weybridge	1/4	1/-
Weymouth	1/3*	11¼
Whitby	1/4½	1/0½
Whitstable	1/3	11¼
Widnes	1/5½	1/1½
Wigan	1/5½	1/1½
Wigton	1/4	1/-
Willington	1/5	1/0½
Wilmslow	1/5½	1/1½
Winchester	1/3½	11¾
Windermere	1/4	1/-
Windsor	1/4½	1/0½
Wisbech	1/2½	11
Witham	1/3½	11¾
Woking	1/3½	11¾
Wokingham	1/3½	11¾
Wolverhampton	1/5½	1/1½
Woodbridge	1/2½	11
Worcester	1/4½	1/0½
Workington	1/4	1/-
Worksop	1/4½	1/0½
Worthing	1/3	11¼
Wrexham	1/5	1/0½
Wroxham	1/3	11¼
Wycombe	1/4	1/-
Wymondham	1/2	10½
Yeovil	1/3½*	11¾
York	1/5½	1/1½

* Painters, 1d. less than other Craftsmen. † Painters, ½d. less than other Craftsmen. ‡ Plasterers, 1s. 8d.

For Building Trade Wages in Scotland, see page 997.

CONTRACTS OPEN

For some contracts still open, but not included in this list, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender, that a fair wages clause shall be observed, that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender, unless stated to the contrary.

The date given is the latest date when the tender, or the names of those willing to submit tenders, may be sent in, the name and address at the end is the person from whom or place where quantities, forms of tender, etc., may be obtained.

Following is a list of abbreviations:—Borough Surveyor, B.S.; Borough Engineer, B.E.; District Surveyor, D.S.; Town Clerk, T.C.; County Engineer, C.E.; County Surveyor, C.S.; Surveyor, S.; Engineer, E.

BUILDING, PAINTING, ELECTRIC LIGHTING, HEATING, etc.

MAY 27.

Barry.—Erection.—Of (1) 70 houses, construction of sewers, and (2) construction of roads, at Buttrills housing estate, for U.D.C. E. R. Hinchsliff, F.S.I. Dep. £3 3s. each.

Birmingham.—Building Work.—In connection with erection of new motor omnibus garage, Liverpool-st., for T.C. Crouch, Butler & Savage, architects, 67a, New-st. Dep. £2 2s.

Brackaville, Coalisland.—Alterations.—To sanitary system at sailors' and soldiers' cottages, for Government of Northern Ireland. H. V. V. Thompson, assistant secretary, Room 82, Ministry of Finance, May-st., Belfast.

Brighton.—Electricity Sub-station.—At Dene Court-av., Withdean, for T.C. W. N. C. Clinch, Electric House, Castle-sq. Dep. £2 2s.

Bristol.—Painting Work.—At the Southmead hospital, Ham Green hospital, Frenchay Park sanatorium and municipal lodging-house, for T.C. H. M. Webb, City E. Dep. £2 2s.

Crediton.—Swimming Bath.—And other works in Newcombes playing-field, for U.D.C. S. Dep. £3 3s.

Cumnock.—School.—At Dalleagles, for Ayr C.C. William Reid, County Architect, County-bldgs.

Drogheda.—Houses.—136 and construction of concrete roadways, kerbs and bituminous macadam footpaths at Hardman's-gdns, for T.C. B.S., Court House. Dep. £3 3s.

Ellesmere Port.—Conveniences.—And shelter at Enfield-rd. recreation ground, for U.D.C. E. and S. Dep. £1 1s.

Glen Maghera, Co. Derry.—Additions.—And alterations to premises, for Edward Hassan. Wm. J. Doherty, architect, 12, Castle-st., Derry.

Hanworth.—Installation.—Of central heating and hot water supply at new Council senior school, Hounslow-rd., for Middlesex C.C. County Architect, 10, Great George-st., Westminster, S.W.1. Dep. £2 2s.

Harrogate.—Exterior Painting.—Of 208 houses on schemes 6 and 7, Devonshire-pl., for T.C. C. E. Rivers, B.E.

Leeds.—Ground Works, etc.—In connection with tenement flats in Quarry Hill area, Section I., for T.C. R. A. H. Livett, A.R.I.B.A., 26, Gt. George-st. Dep. £2 2s.

Leeds.—Erection.—Of 239 tenement flats (Section I.) in Quarry Hill area, for T.C. R. A. H. Livett, A.R.I.B.A., 26, Gt. George-st. Dep. £2 2s.

Leyton.—Painting.—And repair of school buildings during summer vacation, for B.C. J. H. Jacques, F.R.I.B.A., 61, West Ham-lane, Stratford, E.15. Dep. £1.

Liverpool.—School Dining Centre.—At Dovecot estate, for T.C. Land Steward and Surveyor (Architectural Dept.). Dep. £2 2s.

London (Finchley).—Decorative.—And other works at schools during summer vacation, for T.C. P. T. Harrison, B.E., 9, The Hawthorns, Regent's Park-rd., Finchley, N.3. Dep. £1.

London (Hendon).—Construction.—Of building for messroom, lavatories and washhouse, at refuse disposal works, North Circular-rd., N.W.11, for T.C. A. O. Knight, B.E. Dep. £4.

London (West Ham).—Repairing.—And painting of interiors of eight schools and exterior of one school, for E.C. J. H. Jacques, architect, 61, West Ham-la., Stratford, E.15. Dep. £1.

Manchester.—Conversion.—Of ambulance station into stables at Moss-lane East, for T.C. City Architect. Dep. £1 1s.

Norwich.—Erection.—Of engineering garage, for H.M.O.W. Room 65D, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

Oldham.—Separate Works.—In connection with erection of open-air school at Strinesdale, for T.C. Buildings Inspector, Union-st. West. Dep. £1 1s.

Rochford.—Painting Externally.—Of houses on various estates, for R.D.C. A. C. Madge, S. Dep. £1 1s.

Sprotborough.—School.—Also child welfare and school clinic, for West Riding C.C. Education Officer, County Hall, Wakefield.

Staines.—Erection.—Of open-air swimming bath in reinforced concrete, for U.D.C. D. C. Fidler, E. and S. Dep. £2 2s.

Teddington.—Enlargement.—Of Stanley-rd. Council school, for Middlesex C.C. H. M. Walton, 10, Great George-st., Westminster, S.W.1. Dep. £2 2s.

Warrington.—Pointing.—And repairing chimney shaft at Delph-la. pumping station, Houghton Green, for T.C. J. Gray, Waterworks E.

Wayland.—Houses.—6, at Kenninghall, and 4 at Carbrooke, for R.D.C. Clerk.

West Hartlepool.—Verandahs.—2, at diphtheria block, isolation hospital, Brierton-ln., for T.C. Francis Dorkin, B.E.

Yorkshire.—Works.—At Bingley training college, internal renovations; Elland grammar school, provision and fixing of unclimbable iron fencing; Honley county branch library, heating installation; and Pontefract girls' high school, additional lavatory accommodation, for West Riding C.C. Education Officer, County Hall, Wakefield.

MAY 28.

Bundorragha and Tonatleva.—Houses.—7, and 7 out-offices, for Irish Land Commission. M. Deegan, secretary, Upper Merrion-st., Dublin. Dep. £1.

Cave.—House.—And out-office, for Irish Land Commission. M. Deegan, secretary, Upper Merrion-st., Dublin.

Coseley.—Houses.—62, including drainage, fencing, etc., at Harding-st. estate, for U.D.C. Joseph C. Roper, clerk. Dep. £2 2s.

Dunstable.—Veranda Round Wards.—And decorative work to house at isolation hospital in Kensworth-lane, for Joint Hospital Committee. H. Pickering, 73, West-parade, Dunstable. Dep. 10s.

Garrison.—Customs Hut.—And garage at R.U.C. Barracks, for Ministry of Finance. Room 82, May-st., Belfast.

Glen-Urquhart.—Painter Work.—Of Kilmichael Manse. Alexander Ross & Son, architects, 28, Queensgate, Inverness.

Hebburn.—Painting.—Of Roman Catholic School during August, for E.C. S.

Huddersfield.—Maisonettes.—64, on Cross-ln. housing site, Newsome, for T.C. B.E.

Kingswood.—Erection.—Of 12 houses, Orchard-rd., Kingswood, and 12, in Hopewell Hill, for U.D.C. G. Fletcher, L.R.I.B.A. Dep. £2 2s.

Littlehampton.—Alterations.—To fire station, Maltravers-rd., for U.D.C. E. and S. Dep. £2 2s.

Rochdale.—Public Baths.—Entwisle-rd., for T.C. B.S. Dep. £2 2s.

Scarborough.—Alterations.—And additions to public library, Vernon-pl., for T.C. J. Paton Watson, B. and Water E. Dep. £1 1s.

Scarborough.—Houses.—20, and 10 flats, on housing estates, for T.C. J. Paton Watson, B. and Water E.

Seaton Valley.—Convenience.—And shelter at Backworth, for U.D.C. T. W. Burgess. Dep. £1.

Sheffield.—Houses.—412, on Arbourthorne estate, for T.C. W. Geo. Davies, F.R.I.B.A., City Architect. Dep. £2.

Shoreditch.—Erection.—Of 20 flats in Pritchard's-rd., E.2, for B.C. T.C., Town Hall, Old-st., E.C.1. Dep. £5.

Skecoor.—House.—And out-office, for Irish Land Commission. M Deegan, secretary, Upper Merrion-st., Dublin. Dep. £1.

South Cambridgeshire.—Houses.—20, on three sites, for R.D.C. H. Hales, clerk, County Hall, Hobson-st., Cambridge. Dep. £2 2s.

Stockton-on-Tees.—Demolition.—Of 1-13, Paradise-pl., for T.C. B.E.

Tipton.—Tiling.—Of 12 one-bedroom type houses on Bourne-av., Manor-rd. and Moors Mill-ln., for U.D.C. Charles R. Gallie, A.R.I.B.A., Housing Director.

THE
FEDERATED
EMPLOYERS'
Insurance Association Ltd.
HEAD OFFICE:
8, King St., Manchester, 2
The Leading Office for
Contract Guarantee Bonds
All Classes of Insurance Transacted
(Except Life and Marine).
Independent Office
Founded by Builders for Builders

Wigton.—School.—For Cumberland E.C. J. Forster, F.R.I.B.A., County Architect, 4, Alfred-st. North, Carlisle. Dep. £2 2s.

Yorkshire.—Re-arrangement.—Of infirmary male bathroom and repairs to entrance roadway at Penistone institution, also painting works at poor law institutions at Giggleswick, Thorne, Hemsworth and Wakefield, for West Riding C.C. West Riding Architect, County Hall, Wakefield.

MAY 29.

***Accrington.**—Nursery School.—At Rough Lee, for T.C. B.E. Dep. £1 1s.

Auchterless.—Houses.—4, at Badenscoth, for Aberdeen C.C. W. L. Duncan, architect, Turriff.

Harrogate.—Painting.—Of external ironworks at hospital. S. C. W. Disney, secretary, Harrogate and District General Hospital.

Heath Charnock.—Alterations.—And extensions at Isolation Hospital, for Chorley Joint Hospital. E. Catterall, architect, St. Thomas's-sq., Chorley. Dep. £3 3s.

Liverpool.—Erection.—Of 262 houses on Longview Farm estate, Huyton, for T.C. T.C. Dep. £1 1s.

Liversedge and Mirfield.—Observation Ward.—At Crossley hospital, Mirfield, for Joint Hospital Board. John Fawcett, clerk, 2, King-st.

Maltby.—Painting.—And decorating Grammar School, for Governors. A. Adcock, Clerk, Moorgate-chambs., 44, Moorgate-st., Rotherham.

March.—External Painting.—Of 36 houses at Robin Goodfellow's-ln., and 28 houses at Norwalde-st., for U.D.C. W. S. Pickett, architect, E. and S. Dep. £1 1s.

***Morecambe and Heysham.**—Construction.—Of Sandylands paddling pool, for B.C. R. B. Savage, B.S. Dep. £3.

Muckamore.—Alterations.—And improvements to public elementary school, for Antrim Regional E.C. James L. Clark, secretary, Council Offices, Antrim.

Repton.—Internal Painting.—Of diphtheria and scarlet fever blocks of isolation hospital, Sandy Pits-ln., Etwall, for Committee. R. S. Litherland, L.R.I.B.A., High-st., Burton-on-Trent. Dep. £2 2s.

***Southend-on-Sea.**—Supplying.—And laying wood block flooring at Bournemouth Park-rd. Schools, for E.B. F. W. Smith, A.R.I.B.A. Dep. £1.

Stockton-on-Tees.—Erection.—Of 214 houses (contract No. 1) at Blue Hall estate, for T.C. Geo. P. Stainsby, A.R.I.B.A., 20, High-st. Dep. £2 2s.

Stockton-on-Tees.—Erection.—Of 90 houses (contract No. 2) at Blue Hall estate, for T.C. Geo. P. P. Stainsby, A.R.I.B.A., 20, High-st. Dep. £2 2s.

Stratton.—General Repairs.—And external painting at poor law institution, for Cornwall C.C. S. Pool, A.R.I.B.A., County Architect, County Hall, Truro.

Torpoint.—General Repairs.—And external painting at poor law institution, for Cornwall C.C. S. Pool, A.R.I.B.A., County Architect, County Hall, Truro.

***Walthamstow.**—Construction.—Of School for Physically Defective and Delicate Children at Nos. 1 and 3, Hale End-rd., E.17, for B.C. T. S. Cunningham, B.E. and S. Dep. £2 2s.

Ware.—Houses.—30, in Clements-st., for U.D.C. R. W. Grantham, E. and S. Dep. £2 2s.

MAY 30.

Bishop's Castle.—Houses.—4 pairs houses on Pike Meadow, for T.C. B.S.

Bootle.—Removal.—Of galleries, alterations of partitions and renewal of flooring, etc., at various schools during ensuing summer holidays, for C.B. B.E.

Cranham.—Houses.—At Cranham, for Stroud R.D.C. S. Dep. £2 2s.

Croydon.—External Painting.—Of houses in groups, for T.C. Estates Superintendent, 4, Wellesley-rd.

Horsley.—Houses.—For Stroud R.D.C. S. Dep. £2 2s.

Newcastle-upon-Tyne.—Flats.—252, at Buckingham-st., including demolition of existing property on site, for T.C. Housing Architect, 18, Cloth-market. Dep. £2 2s.

St. Helens.—Houses.—28, on Simms-ave. site 37, for T.C. A. P. Statham, B.E. Dep. £2 2s.

Southend-on-Sea.—Cleaning.—And painting at various schools, for T.C. F. W. Smith, A.R.I.B.A., Dep. £1.

Watford.—Erection.—Of public convenience in car park, High-st., for B.C. B.E. Dep. £2 2s.

***West Ham.**—Installation.—Of electric lighting at proposed Trade School to be erected in Waterlane, Stratford, for C.B. J. H. Jacques, F.R.I.B.A., 61, West Ham-lane, E.15. Dep. £1.

Wisbech.—Erection.—Of stage with store for seating accommodation in Assembly Hall of Queen's School, for Isle of Ely County E.C. R. D. Robson, County Architect, County Hall, March.

MAY 31.

Batley.—Internal Renovations.—And painting of tennis court surrounds at Batley girls' grammar school, for E.C. Ernest Childe, Acting Director of Education.

Birmingham.—Erection.—Of new public library at Yardley Wood, for T.C. City Librarian, Ratcliff-pl. Dep. £2 2s.

Durham.—Additions.—And alterations to Auckland Park school, for C.C. F. Willey, F.R.I.B.A., 34, Old Elvet.

***Edmonton.**—Erection.—Of elementary school, caretaker's cottage, boundary walls and fencing at Galliard-av., N.9, for E.C. Talbot, Brown & Fisher, F.S.A., F. & L.R.I.B.A., Burystead-pl., Wellingborough, Northants Dep. £2 2s.

Hove.—Extension.—Of telephone exchange for H.M.O.W. Room 65D, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

Merton.—Erection.—Of public convenience, Aberconway-rd., for U.D.C. G. Jerram, E. and S. Dep. £1.

Merton.—Erection.—Of public convenience, shelters and other buildings, Merton Park open space, for U.D.C. G. Jerram, E. and S. Dep. £1.

***Middlesbrough.**—Alterations.—And additions to Education Offices, Woodlands-rd., for E.C. Director of Education. Dep. £6 5s.

Pittenweem.—Houses.—56, at University Park, for T.C. Maclennan & Cunningham, F.R.I.B.A., architects, 10, Alexandra-pl., St. Andrews. Dep. £1.

Pickering Nook.—Alterations.—To school, for Durham C.C. F. Willey, F.R.I.B.A., architect, 34, Old Elvet.

West Hartlepool.—Alterations.—And additions to post office, for H.M.O.W. Room 65D, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

Wheatley Hill.—Installation.—Of low pressure hot water heating apparatus at school, for Durham C.C. F. Willey, F.R.I.B.A., architect, 34, Old Elvet, Durham.

JUNE 1.

Doncaster.—Shops.—10, at Market Hall, for T.C. R. E. Ford, Estates Surveyor, 3, Priory-pl., Doncaster.

Downpatrick.—Erection.—Of St. Patrick's public elementary school, for Very Rev. D. J. Canon M'Williams, P.P., V.F. M'Carthy & Lisburn, chartered quantity surveyors, Scottish Provident-bldgs., Belfast. Dep. £2 2s.

Eccles.—Caretaker's House.—At playing fields, Winton, for T.C. B.E. and S. Dep. £1 1s.

Gloucester.—External Redecorations.—At electricity works, Commercial-rd., for T.C. C. J. Scudamore, City S.

Leek.—Extension.—To poultry market buildings, Silk-st., for U.D.C. W. E. Beacham, S. Dep. £1 1s.

JUNE 2.

Edinburgh.—Erection.—Of district postmen's office at Falcon-rd., Morningside, for H.M.O.W. Architect, H.M. Office of Works, 122, George-st., Edinburgh, 2. Dep. £1 1s.

JUNE 3.

Amesbury.—Houses.—12, at Shrewton, for R.D.C. R. W. H. Vallis, Monmouth House, Frome. Dep. £2 2s.

Birmingham.—Erection.—Of boathouse, Trittiford Mill Pool, Hall Green, boathouse, Swanshurst Park, Yardley Wood, lavatories, Rookery Park, Erdington, lavatories, Cotteridge Park, King's Norton, for T.C. E. S. White, secretary, 161, Corporation-st. Dep. £2 2s.

Doncaster.—Additions.—To administration block and extensions to cubicle block, also operating theatre at infectious diseases hospital, Tickhill-rd., for T.C. B.E.

Grimsby.—Houses.—100, on Nunsthorpe housing site, for T.C. H. Gilbert Whyatt, B.E. and S. Dep. £2 2s.

Hemsworth.—Bungalows.—30, for aged persons on Kirkby-rd. site, for U.D.C. Alva Wright, clerk. Dep. £2 2s.

***Hendon.**—Reconstruction.—Of children's lavatories and new lavatories for teachers at Burnt Oak school, for B.C. A. O. Knight, M.C., M.Inst. C.E., Hendon, N.W.4. Dep. £3.

***Isleworth.**—Modernisation.—Of Block A at West Middlesex County Hospital, Twickenham-rd., for Middlesex C.C. County Architect, 10, Great George-st., Westminster, S.W.1. Dep. £2 2s.

London.—Construction.—Of open-air swimming bath at Victoria Park, Bethnal Green, E., for L.C.C. Chief Officer of the Parks Dept., Room 113, 23, Belvedere-rd., S.E.1. Dep. £2.

Luton.—Convenience.—At Archway-rd., for T.C. J. W. Tomlinson, B.E. and S., 12, Upper George-st. Dep. £1 1s.

Radcliffe.—Houses.—166, on Dumers-ln. housing site, for U.D.C. S.

Rotherham.—Reconstruction.—Of heating installation at South Grove school, for T.C. B.E. Dep. £2 2s.

***Shoreditch.**—Decoration Work.—At town hall, Old-st., E.C.1, for M.B. B.S. Dep. £2 2s.

Sligo.—Hospital.—And doctor's residence, for Board of Health. Cullen & O'Brien, quantity surveyors, 48, Grafton-st., Dublin. Dep. £15.

JUNE 4.

Bishop Auckland.—Extensions.—To town hall, for U.D.C. E. and S. Dep. £1 1s.

Croydon.—Erection.—Of nurses' home at Mayday Hospital, for C.B. T.C. Dep. £5 5s.

Galway.—School.—At Father Griffin-rd., for T.C. Morris & Kavanagh, quantity surveyors, 68, Harcourt-st., Dublin. Dep. £3 3s.

***Godstone.**—Erection.—Of 25 cottages at Pollard Oak, Red-ln., Limpsfield, for R.D.C. E. and S., Oxted. Dep. £2 2s.

***Godstone.**—Erection.—Of 10 cottages at Westmore Green, Tatsfield, for R.D.C. E. and S., Oxted. Dep. £2 2s.

***Godstone.**—Erection.—Of 12 flats at old brewery site, Old Oxted, for R.D.C. E. and S., Oxted. Dep. £2 2s.

Ipswich. — Internal Alterations.—At Museum Buildings, High-st., for T.C. E. McLauchlan, B.S. and Water E.

Poynton.—School.—For Chester C.C. F. Anstead Browne, F.R.I.B.A., County Architect, The Castle, Chester. Dep. £2 2s

***Ramsey, Huntingdon.**—Erection.—Of 24 houses, for U.D.C. V. J. Bateman, Surveyor, Whytefield-rd. Dep. £2 2s.

JUNE 5.

***Bristol.**—Erection.—Of a central clinic at Marybush-ln., for Corporation. Messrs. Gleeds, quantity surveyors, 40, Corn-st. Dep. £5 5s.

***Hornchurch.** — Provision. — And erection of approx. 1,140 lin. yds. of wrought-iron, unclimbable fencing and entrance gates at new recreation ground at Spring Farm, Rainham, for U.D.C. F. Alderson, S.

Peterborough.—Painting.—Exterior and interior, at several schools during summer holidays, for T.C. J. L. Jolly, Deputy City S.

Southgate.—Erection.—Of public convenience and shelter, Broomfield Park, N.13, for B.C. R. Phillips, B.S., Palmers Green. Dep. £2.

JUNE 6.

***Chipping Norton.**—Erection.—Of 12 pairs of houses on Churchill-rd. sites, also for roads and water main, for B.C. B.S.

Penarth. — Erection. — Of post office, for H.M.O.W. Room 65D, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

Southend-on-Sea. — Erection.—Of offices over existing garages in depot, for T.C. Arthur C. Johnson, Borough Electrical Engineer and Manager, 85, London-rd.

Southgate.—Erection.—Of messroom, store and dressing accommodation, Oakwood Park, for B.C. B.S., Palmers Green, N.13. Dep. £2.

Walthamstow.—Renovation.—Interior and exterior, to various schools and lime-whiting, etc., to outoffices, also removal of galleries, during summer vacation, for T.C. T. S. Cunningham, B.E. and S., Town Hall, Walthamstow, E.17.

JUNE 7.

***Lewisham.**—Erection.—Of public library and swimming bath at Durham Hill, Downham, for M.B. T.C., Catford, S.E.6. Dep. £2 2s.

***Manchester.**—Provision.—And erection of substation buildings, Crab-ln., Higher Blackley, and Stockport-rd., Northern Etchells, for T.C. H. C. Lamb, Chief E. and Manager, Electricity Dept. Dep. £1 1s.

JUNE 8.

Dorset.—Repair.—Painting and renovation of various schools during summer vacation, for C.C. County Architect, County Offices, Dorchester.

***Kent.**—Erection.—Of two pavilions for females, mortuary, workshop for males and recreation hall and other works at Leybourne Grange Colony, nr. West Malling, for C.C. W. H. Robinson, F.R.I.B.A., Springfield, Maidstone. Dep. £5 5s.

***Watford.**—Erection.—Of extension to present electricity works, Cardiff-rd., for B.C. A. W. Barham, Chief E. and General Manager. Dep. £2 2s.

JUNE 10.

Clydebank.—Convenience.—In Thomson-st. recreation ground, for T.C. B.S. Dep £1 1s

***Sawbridgeworth.**—Erection.—Of 19 houses in Cambridge-rd., for U.D.C. Clerk. Dep. £2 2s.

***Swansea.**—Erection.—Of library building, for University College of Swansea. Edwin Drew, Registrar, Singleton Park.

JUNE 11.

***Port Talbot.**—Erection.—Of employment exchange, for H.M.O.W. Room 65D, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

***Manchester.**—Erection.—Of boiler house, messroom, sheds, etc., at Wythenshawe Park, for T.C. Dep. £1 1s.

Sedbergh.—Houses.—36, at Howgill-lane, for R.D.C. W. E. R. Thomas, architect and surveyor, Kirkby Lonsdale. Dep. £2 2s.

***Yiewsley, Middlesex.**—Erection.—Of 148 cottages at Falling-lane, for U.D.C. W. T. Morgan, F.S.I. Dep. £2 2s.

***Yiewsley.**—Construction.—Of roads and sewers in connection with erection of 148 cottages at Falling-lane, for U.D.C. W. T. Morgan, F.S.I. Dep. £2 2s.

JUNE 15.

***Bromley.**—Erection.—Of additions to and structural alteration of Raglan-rd. Council school, for B.C. F. H. Wood, P.A.S.I., Gloucester House, 19, Charing Cross-rd., London, W.C.2. Dep. £2 2s.

***London, N.**—Erection.—Of Mount View telephone exchange, Crouch Hill, for H.M.O.W. Room 65D, Third Floor, H.M. Office of Works, S.W.1. Dep. £1.

JUNE 24.

***Acton.**—Cleaning.—Painting, decorating and repairs to various schools, for E.C B.E. Dep. £1 1s.

JULY 5.

***Ipswich.**—Conversion.—And adaption of Kedington Institution, near Haverhill, for East Suffolk C.C. E. J. Symcox, A.R.I.B.A. Dep. £2 2s.

Now Published — 5th Edition

Revised throughout and greatly enlarged, superseding all previous issues.

HOW TO ESTIMATE

FOR EVERY CLASS OF BUILDING WORK

By J. T. REA.

Containing 726 pages with over 600 illustrations.
Large 8vo. Cloth gilt. Price 16/- net.
(By post 16/9.)

The new edition of this unique work represents, in fact, quite a new undertaking, brought up-to-date in every way, including a large amount of original memoranda, complete revision of prices, examples of analysis, and fresh details of costing, involving many thousands of figures, hundreds of calculations, and immense labour and research. Being self-contained, it avoids the weary hunt in other books for the vital, detailed knowledge which is usually hard, if not often impossible, to find.

B. T. BATSFORD, LTD.

Architectural Publishers,

15, North Audley Street, London, W.1.

NO DATE.

***Bromley**—Alterations.—And additions to premises at 132-154, High-st., for Timothy Whites & Taylors, Ltd., Construction Dept., 30, Chandos-st., Portsmouth.

Consett.—External Painting.—Of 298 cottages at Chopwell and 201 cottages at Blackhill and Consett, for Consett Iron Co., Ltd. Architect, Berryedge-rd.

Jedburgh.—Houses.—80, of various types, at Headrig site, for T.C. Wilson & Tait, architects, Grangemouth. Dep. £1 1s.

Morley.—Shops.—And business premises in Queen-st., for Albert Webster. W. Harold Watson, F.R.I.B.A., architect, Barstow-sq., Wakefield.

North Witchford.—Painting.—Exteriors of 84 houses at various sites, for R.D.C. A. F. Sharman, clerk, 86, High-st., March.

Wing.—Houses.—10, at Wing, and 4, at Dagnall, for R.D.C. Harold A. Rolls, L.R.I.B.A., architect 15 Bridge-st, Leighton Buzzard. Dep. £1 1s.

Wisbech.—Alterations.—And additions at 8, Cornhill, for E. W. Reeve. Ward & Woolnough, architects, 8, South Brink.

ENGINEERING, IRON AND STEEL

MAY 27.

Aberdeen.—Demolition.—Of existing bridge and construction of new bridge over L.N.E. Railway (Deeside Section), at Whinhill-rd., for T.C. City E. Dep. £2 2s.

South Africa. — Structural Steel. — Including columns, purlins, roof trusses, galvanised gutters and down pipes, galvanised sheets, etc., for the extension of the blacksmith's shop, Bloemfontein, for Department of Overseas Trade, 35, Old Queen-st., London, S.W.1 (G.Y.14992).

MAY 29.

Luton.—Construction.—Of road and bridge over River Lee at Black Swan-la., for T.C. B.E. Dep. £2 2s.

MAY 30.

Kinross.—Reconstruction.—Of Burgher bridge on Lethangie-rd., for C.C. S. Ellacott, County Road Surveyor, Milnathort.

ROAD, SEWERAGE AND WATER WORKS.

MAY 27.

Bacup.—Making-up.—Of Spring-gdns., for T.C. H. Guffogg, B.E. Dep. £1 1s.

Beaconsfield.—Sewering.—And making-up Woodside-rd. and Woodside-ave., for U.D.C. J. H. Crosby, S.

Exeter.—Construction.—Of roads, sewers, culverts, and other works in connection with St. Loye's No. 2 and Tollard's Farm housing schemes, for T.C. R. H. Dymond, City E.

Hull.—Street Works.—And pipe sewer, in Leyburn-av., between Hall-rd. and Aysgarth-av., for T.C. City E. Dep. £2.

Maldens and Coombe.—Surface Water Sewer.—At Malden-rd. to Hogsmill River, for U.D.C. E. and S.

Manchester.—Construction.—Of Sharston sewer, for T.C. City E. Dep. £5 5s.

Porthcawl.—Layout.—Of Griffin Park, for U.D.C. E. and S. Dep. £2 2s.

Rawdon.—Levelling.—Paving, metalling, flagging, channelling, surface water drain, and making good Derby-rd., Rawdon, for U.D.C. S. Dep. 5s.

MAY 28.

Bolton.—Cleaning.—And painting of various schools and premises, for E.C. John A. Cox, Director of Education.

Chelmsford.—Making-up.—Part of Lynmouth-ave. from Baddow-rd., for T.C. V. J. Willis, B.E. Dep. £2 2s.

Coseley.—Roads.—And sewers on Harding-st. housing site, for U.D.C. G. E. Mitchell, E. and S.

Ilford.—Making-up.—And paving of various streets, for T.C. B.S. Dep. £2 2s.

Ilford.—Making-up.—Carriageway, surfacing in concrete, paving, of various roads, for T.C. B.E. and S. Dep. £2 2s.

Tottenham.—Making-up.—Of various streets, for T.C. Captain H. F. Wilkinson, B.E. and S., Town Hall, Tottenham, N.15. Dep. £1.

MAY 29.

Banstead. — Making-up. — And surface water drainage in Kingswood-rd., Tadworth, for U.D.C. S. Dep. £1.

Hornchurch.—Making-up.—Of Hazel Rise, Percival-rd. and Lewis-rd., for U.D.C. F. Alderson, S.

Hornchurch.—Making-up.—Of Helen-rd. and Ashlyn-grove, for U.D.C. F. Alderson, S.

Manchester. — Sewering. — Draining, kerbing, asphalting and concreting road and footpath to 40 houses, Heald-pl. estate, for T.C. City E. Dep. £1 1s.

MAY 30.

Ealing.—Construction.—Of 12 in. and 15 in. soil sewer in Yeading-lane and Church-rd., Northolt, for T.C. F. J. Forty, B.E., Town Hall, Ealing, W.5. Dep. £2.

Ealing.—Making-up.—Of Westlea-rd., Hanwell, for T.C. F. J. Forty, B.E.

Greenwich.—Forming.—And paving of Wricklemarsh-rd. (Part III.), for T.C. B.E. and S. Borough Hall, Royal Hill, S.E.10.

Newcastle-on-Tyne. — Construction. — Of roads, footpaths and sewers to serve about 340 houses on Daisy Hill housing estate, for T.C. Housing Architect, 18, Cloth Market. Dep. £2 2s.

MAY 31.

London (Merton).—Levelling.—Culverting watercourse, construction of paths and other works in laying-out of recreation ground at Merton Park, for Merton and Morden U.D.C. G. Jerram, E. and S., Council Offices, Kingston-rd., Merton, S.W.19. Dep. £1.

JUNE 1.

Bromsgrove.—Construction.—Of about 2,000 yds. of 12 in., 10 in., 9 in. and 6 in. stoneware and cast-iron pipe sewers with manholes thereon, for R.D.C. Fiddian & Deeley, E., 13, Church-st., Stourbridge. Dep. £3 3s.

Morecambe and Heysham.—Making-up.—Of various streets, for T.C. R. B. Savage, B.S. Dep. 10s.

Wakefield.—Street Works.—In Plumpton-rd., Markham-st., Anderson-st., Plumpton-st., and four adjoining back streets, for T.C. L. Ives, City S.

Public Appointments.

MAY 27.

London.—General Assistant in Contracts Section of Architect's Depart.—For London C.C. Architect, County Hall, Westminster Bridge, London, S.E.1.

MAY 28.

***Chichester.**—Architectural Assistant (Temporary).—For T.C. J. W. Loader Cooper, T.C.

MAY 29.

Rochdale.—Two Architectural Assistants (Temporary).—For C.B. T.C.

MAY 30.

London.—Assistant Examiners in Patent Office. Secretary, Civil Service Commission, Burlington Gardens, W.1.

***Maldon.**—Clerk of Works.—For B.C. T.C.

MAY 31.

Banstead.—Clerk of Works.—In connection with alterations and additions to Cuddington hospital. Clerk, Mead House, 61, South-st., Epsom.

Chesterfield.—Clerk of Works.—For T.C. T.C.

London.—Assistant Civil Engineers.—For Air Ministry. Secretary (S.2./C.) Air Ministry Adastral House, Kingsway, W.C.2.

Sheffield.—Assistant Architectural Lecturer.—For University. W. M. Gibbons, Registrar.

Southern Rhodesia.—Quantity Surveyor's Assistant (Temporary) in Public Works Department.—Director of Public Works, P.O. Box 365, Salisbury, Southern Rhodesia.

Southern Rhodesia.—Architectural Draughtsman (Temporary) in Public Works Department.—Director of Public Works, P.O. Box 365, Salisbury, Southern Rhodesia.

West Riding of Yorkshire.—Two Architectural Assistants and three Quantity Surveying Assistants (Temporary).—For C.C. Education Officer, Wakefield.

JUNE 1.

***Kesteven.**—Architectural Assistant (Temporary).—For C.C. Clerk, Sleaford, Lincs.

***Newcastle-upon-Tyne.**—Clerk of Works.—For C.C. City Estate and Property Surveyor.

JUNE 3.

Bucks.—Junior Architectural Assistants.—For C.C. County Architect, Aylesbury.

***Greenwich.**—General Foreman.—For M.B. T.C., S.E.10.

***Reading.**—Draughtsman-Surveyor.—For Berkshire C.C. County Surveyor.

***Reading.**—Town Planning Assistant.—For Berkshire C.C. County Surveyor.

JUNE 4.

London.—Architectural Draughtsman (Temporary).—For Poplar M.B. B.E. and S.

***Salop.**—Clerk of Works (Temporary).—For C.C. A. G. Chant, A.R.I.B.A., 5, Belmon, Shrewsbury.

JUNE 5.

***Chelmsford.**—Building Inspector.—For B.C. B.E. and S.

***Manchester.**—Architectural Assistant in City Architect's Dept.—For T.C. City Architect.

***Manchester.**—Architectural Assistant (Temporary) in City Architect's Dept.—For T.C. City Architect.

***Manchester.**—District Building Inspector.—For T.C. City Architect.

JUNE 6.

***Guildford.**—Assistant Building Inspector.—For B.C. B.E. and S.

JUNE 7.

***Leicester.**—Architectural Assistant (Temporary).—For T.C. F. P. Armitage, Newarke-st.

JUNE 8.

***Burnley.**—Town Planning Assistant.—For North East Lancashire Region No. 2 Joint Town Planning Committee. Arthur Race, Town Hall.

***Gateshead.**—Architectural Assistant.—For C.B. B.E.

***Guernsey.**—Chief Engineering Assistant.—For the States. States Supervisor.

***Guernsey.**—Second Engineering Assistant.—For the States. States Supervisor.

***London.**—Architectural Assistants (Temporary).—For Designs Branch of Directorate of Works at War Office. Under-Secretary of State (C.5), The War Office.

***London.**—Structural Engineering Assistants (Temporary).—For Designs Branch of Directorate of Works at War Office. Under-Secretary of State (C.5). The War Office.

***Norwich.**—Full-Time Teacher of Carpentry and Joinery.—For Technical College. Director of Education, 41, St. Giles-st.

JUNE 20.

***London.**—Assistant Surveyor in Admiralty.—Secretary, Civil Service Commission, Burlington-gdns., W.1.

NO DATE.

***Newcastle-upon-Tyne.**—Two Architectural Assistants (Temporary).—For T.C. R. G. Roberts, F.R.I.B.A.

***Newcastle-upon-Tyne.** — Quantity Surveying Assistant (Temporary).—For T.C. R. G. Roberts, F.R.I.B.A.

***Portsmouth.**—Lecturer in Civil Engineering and Building.—For Portsmouth Municipal College. Registrar.

CURRENT & PROPOSED BUILDING WORK*

Abbreviations: T.C. for Town Council; U.D.C. for Urban District Council; R.D.C. for Rural District Council; E.C. for Education Committee; B.C. for Borough Council; P.C. for Parish Council; M.H. for Ministry of Health; M.T. for Ministry of Transport; C.B. for County Borough; B. of E. for Board of Education; M.W.B. for Metropolitan Water Board; B.S. for Borough Surveyor; B.E. for Borough Engineer; D.S. for District Surveyor; C. for Clerk; T.C. for Town Clerk; C.E. for County Engineer; C.S. for County Surveyor; S. for Surveyor; E. for Engineer.

Abingdon.—T.C. decided to make clearance orders for house in Queen-st., Ock-st., Bury-st. and Start-st., and B.S. been instructed to prepare plans for 50 more houses, Drayton-rd. site.

Abram.—Rev. W. H. Vaughan and Parochial Council of Abram Parish Church propose erection of church. Plans by Austin & Paley, AA.R.I.B.A., 34, Castle-hill, Lancaster. Estimated cost £9,000. Tenders to be invited.

Ashton-under-Lyne.—Gartside Brewery Co., Ltd., Brookside Brewery, propose rebuilding "Horse and Jockey" p.-h., Bleakhey Nook. Plans by Resident Architect, Mr. Buckley. Quantities being prepared.

Barnet.—U.D.C. instructed S. to prepare plans for pavilion at Barnet-gate playing fields.

Barnstaple.—Following plans recommended for approval: 31 houses, Under Minnow-lane, and 31 cottages between Victoria-st. and Broadfield-rd., for J. Cater & Sons, Ltd.

Bellingham (Northumberland).—R.D.C. approved scheme for remodelling of the local poor law institution.

Bilston.—Joynson Bros., architects, Butcroft, Darlaston, Staffs, to prepare plans for Council school at Ettingshall for E.C.

Birmingham.—Rev. N. C. Parsons, 47, Lakey-ln., Acocks Green, proposes Methodist Church at Lakey-ln., Gospel-ln. and Redstone Farm-rd. Estimated cost £4,000.

Birmingham.—Maternity and Child Welfare Committee proposes additions, Manor Hospital, at £15,000.

Bishop Auckland.—Extensions to be made to the town hall. Plans by C. Heslop, S., Town Hall.

Bishops Stortford.—U.D.C. approved: 20 houses in Stansted-rd., for Alfred Clark.

Blackpool.—Burtonwood Brewery Co., Ltd., Collins Green, Warrington, propose rebuilding the "Boar's Head Hotel," Marton.

Boston.—M.H. approved plans for new children's home, for P.A.C.

Bracebridge.—Alterations costing £895 to be carried out at Mental Hospital.

Bradford.—W. N. Sharpe, Ltd., to erect printing works, Bingley-rd.

Bridgwater.—T.C. to seek £55,000 loan for water works extension purposes.

Bromsgrove.—Bromsgrove, Droitwich and Redditch Joint Hospital Committee propose extensions to isolation hospital. Plans by S. N. Cooke, F.R.I.B.A., Sun-bldg., Bennetts-hill, Birmingham.

Brownhills.—U.D.C. received sanction to borrow £23,800 for 78 houses.

Camborne.—Camborne & District Industrial Co-operative Society preparing plans for drapery department at Camborne, new branch at Porthleven and alterations, Tuckingmill branch.

Cardiff.—City Council approved £81,000 road improvement scheme, including widening of Cow and Snuffers Bridge at Llandaff North, at £16,000.

Carlisle.—T.C. approved: F. Irwin & Sons, 24 houses at Harraby.

Chatham.—T.C. have received sanction from M.H. to borrow following sums: Erection of 52 houses and 8 flats at Great South and Queen-st. in connection with slum clearance, £18,042; land at Queen-st., £440; roads and sewers, £8,446.

Cheltenham.—T.C. approved erection new buildings, Winter Gardens site, at £60,000.

Chester.—Douglas, Minshull & Williams, 6, Abbey-sq., are architects for extensions to Queen's grammar school for Board of Governors.

Chingford.—M.W.B. recommend £240 for external and internal repairs, decorations, etc., at Chingford pumping station.

Chorley.—Joint Hospital Board propose extensions to isolation hospital, Heath Charnock. Architect, T. E. Catterall, 6, St. Thomas-sq. Tenders invited.

Clonmel.—Mental Hospital to be reconstructed, at £98,000.

Dewsbury.—T.C. approved: J. Tierney, 64 semi-detached houses and 1 shop, Headfield-rd., Savile Town; 20 semi-detached houses and 2 detached houses, Leeds-rd.; and 22 semi-detached houses and 3 detached houses, Ravensthorpe-rd.

Dukinfield.—Cormack & Co. (Lancs), Ltd., builders, Heaton Chapel, Stockport, propose 42 houses at Thorncliffe-av. and Freeman-rd.

Durham.—Tenders to be invited by Standing Joint Committee for police station at Billingham. Total cost £4,600. Plans by W. J. Merrett, C.S., 43, Old Elvet, Durham.—C.C. proposes remodelling Framwellgate Moor Council school, and F. Willey, 34, Old Elvet, Durham, been instructed to prepare plans.—B. of E. generally approved scheme for school at Sherburn. Preliminary plans by F. Willey, County School Architect, 34, Old Elvet, Durham. Site not yet definitely selected.

Easington.—J. Nimmo & Sons, brewers, Castle Eden, are to erect hotel at Station Town, Wingate. Architect, J. W. English, 78, Church-st., West Hartlepool. Plans passed, but contract still unsettled.

Enfield.—M.W.B. recommend Enfield U.D.C. to construct new road bridge over New River at Southbury-rd.

Essex.—Filtration plants are to be installed at 7 schools at average cost of £460 per bath. Filter houses to be erected at average cost of £240. Jno. Stuart, County Architect, Chelmsford.

Framwellgate.—P. L. Browne & Sons, Pearl-bldgs., Northumberland-st., Newcastle-on-Tyne, prepared plans for rebuilding "Queen Victoria" inn, for Trustees of the late Mrs. A. S. Lishman. No contracts let.

Hebburn.—U.D.C. approved plans by C. McGhie, Collingwood-bldgs., Newcastle, for lay-out of housing estate at Richmond-av.

Hereford.—E.C. proposes to erect school, Hinton Court estate, to accommodate 400 children and capable of enlargement to take 600.

Kidderminster.—Rev. E. H. Downey and Parishioners of Hartlebury Parish Church propose erecting a parish hall on the site of Pear Tree Orchard, Hartlebury Main Hall, 63 ft. by 33 ft., accommodation for 300 people, club room 24 ft. by 16 ft. Plans by M. F. Rendle. Estimated cost £1,500.

Leeds.—Tenders being invited for erection of workshop and offices at Wharf-st. and Kirkgate for C. P. Hitchen, Ltd. Architects, Kitson, Parish, Ledgard & Pyman, Lloyds Bank-chams., Vicar-ln.

Leigh.—Rev. D. E. Benbow and Parochial Council of St. Paul's, West Leigh, propose reconstruction of school buildings. Plans by Bradshaw Gass & Hope, FF.R.I.B.A., 19, Silverwell-st., Bolton. No contracts placed. Estimated cost £4,000.

Lincoln.—City Council to apply for loan of £10,300 for children's homes and nursery, St. Giles' estate.—City Council to erect 108 houses, Simon's-hill estate, and to apply for loan of £31,536 in connection therewith.

London (Brixton).—L.C.C. have approved £7,500 for equipment for L.C.C. school of building.

London (Camberwell).—B.C. recommend Absolom-pl., Acock's Cottages, Hearsey-pl. Nungate, Lansdowne-pl. and Bowyer-st. as clearance areas.—Plans passed for garage at 104, Alleyn-rd., for A. Robertson & Sons.

Manchester.—Members of Welsh Church proposing erection of church in Oxford-pl., Victoria Park. Plans being prepared by Roberts & Wood, architects, 26, King-st.—Halliday & Agate, architects, 14, John Dalton-st., prepared plans for erection of mineral water works on Lightbowne-rd., Moston, for F. Pickup, Lightbowne-rd., Deane-ln.

Meriden.—R.D.C. approved plans, swimming pool and alterations, Maxstoke Castle, Maxstoke Castle Co., Ltd.—Estate lay-out, Coventry-rd., Bickinhill, Goodway & Silverstone; 35 bungalows, Cookes-in., Coleshill, Tregellas & Sandilands.

Morecambe.—E. Kershaw, builder, Devonshire-rd., proposes 44 houses on land adjoining Westgate.

Newcastle-on-Tyne.—City Council received sanction from M.H. to raise following loans: £6,731 for purchase of land adjoining Mental Hospital at Coxlodge; £4,907 for constructing hangar and roads at municipal aerodrome at Woolsington; and £4,144 for clubhouse, offices, etc., in connection with aerodrome.—No contracts yet placed for new Methodist Sunday-school at Benwell-grove, to cost over £1,000. Architects, Davidson, Son & Sherwood, Clayton-st.

Ovenden (Halifax).—Corporation considering scheme for new senior schools and swimming baths. Plans by B.S.

Rushden.—U.D.C. approved: 32 houses, St. Peter's-av., R. Marriott.

* See also List of Contracts open.

*** In these lists every care is taken to ensure that information given is accurate and up to date, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works at the time of publication have been actually commenced.

BRITISH MADE
Henderson
Guaranteed
We invite you
SLIDING DOOR GEAR
to send for our technical representative and illustrated treatise — free.
Easily the best and competitive in price.
P. C. HENDERSON LTD., BARKING, ESSEX

Redruth.—Martin Edwards offered to bear cost—about £800—of addition of third story to West Cornwall Miners' and Women's Hospital.

Rochdale.—T.C. propose extensions to Birch Hill Hospital. Plans by B.S., S. H. Morgan, Town Hall. Estimated cost £25,000.

Salford.—E.C. propose elementary school on Light Oaks estate.

Scarborough.—E.C. to provide elementary school for 500 children, Northstead estate.

Seaham Harbour.—Durham County Licensing Committee granted application for licensed premises at Seaham to be known as the "Village Inn." Architects W. & T. R. Milburn, 17, Fawcett-st., Sunderland. No contracts let.

Seaton Valley.—U.D.C. proposes conveniences and shelters at Backworth. Tenders being obtained. Plans by T. W. Burgess, S.

Sedburgh.—R.D.C. invites tenders for 36 houses. Howgill-ln.

Sheffield.—Rev. D. Hopkins and Parochial Council of Holy Trinity Church proposing erection of church on Millhouses-ln. Estimated cost £7,650. Plans by J. Amory Teather, F.R.I.B.A., Mazda-bldgs., Campo-ln. Contracts not let.

Shipley.—N. Hudson, Garden-st., Highgate, Heaton, Bradford, propose 85 houses on North Bank-rd.

Stafford.—E.C. propose elementary school, Stone-rd. housing estate. Plans by G. C. Lowbridge, L.R.I.B.A., County Offices.

Stockton.—Fire brigade premises and staff quarters to be rearranged, at £3,450.

Stockton-on-Tees. — Newcastle Breweries, Ltd., Haymarket, Newcastle, to erect licensed premises at Wolviston. Plans by J. Oswald & Sons, Worswick-st., Newcastle-on-Tyne. No contracts let.

Sunderland.—49 pairs of semi-detached houses to be erected in Dykelands-rd., H. T. D. Hedley, architect. 49, Frederick-st.—Tenders not yet obtained for hotel in Newcastle-rd. for F. L. Robson, Bridge-st., or for new hotel at Seaham for C Vaux & Sons. Plans by W. & T. R. Milburn, 17, Fawcett-st. —Proposed extensions to Bede Collegiate School for E.C. will comprise 4 new classrooms, each accommodating 30 pupils. Architects are W. & T. R. Milburn, 17, Fawcett-st.—Tenders will be invited shortly by T.C. for 508 houses on Ford estate, 442 on High Southwick estate, and 44 on Utterdipe estate. Plans by Housing Architect.—T.C. approved scheme to remodel Moor Council school at £4,912. O. T. Mark, architect to E.C.

Swansea.—C.B. proposing new fire station at £40,000.—Council sanctioned number of slum-clearance schemes.—Plans passed :—Rebuilding 238, Oxford-st., for Jays (Western), Ltd.; garages, Neath-rd., for J. Owen Smith; 18 garages, Edgeware-rd., for J. C. Oliver; additions, Dunvant school, for E.C.—E.C. to re-wire for electrical installation, Birchgrove Council school, at £150, and repair at £475, Newton Council school.—Sketch plans prepared for additions to Hafod Council school.—Borough Architect to prepare plans for alterations to Dyfatty Council school.—Borough Estate Agent submitted plan for proposed lay-out of Trewyddfa housing site.—Tenders to be invited for fencing extension of promenade from Brynmill to Sketty-ln. —Council considering purchase of site at Gelligravog for housing.—Townhill and Mayhill Tenants' Unemployed Association propose hall at Townhill. —Extensions proposed at Central library.

Uttoxeter.—Wm. Tatton & Sons, Ltd., Mayfield Mill, proposes to develop housing estate at Mayfield.—Beddoes & O'Dair, builders, Tean, propose developing housing estate, Denstone.

Wakefield.—Corporation seeking borrowing powers for £60,705 in connection with 200 houses on various estates. Plans by P. Morris, City Architect.

Walsall.—T.C. propose additional wing for maternity ward, Manor Hospital. Estimated cost £15,000. J. Taylor, B.S.—Watch Committee propose alterations to police station. Cost £2,600. J. Taylor, B.S.

Wallsend.—E.C. selected site in Hall grounds for school clinic and welfare centre. J. A. Blench, B.E.—T.C. received application from Wallsend and Hebburn Coal Co. to construct additional railway over highway to Rising Sun Colliery.—T.C. approved plans for pavilion, etc., on High Howdon estate for A. Lisle & Son, Promontory-ter., Whitley Bay.

Warrington.—Plans approved by T.C. :—20 houses, A. Cannell, Greenba and Sulby-avs. and Chester-rd.; 38 houses, J. F. Simms, Liverpool-rd. and Evelyn-st.; rebuilding, "Lord Rodney Hotel," Winwick-rd. and Pinners Brow, Peter Walker & Sons, Ltd.; alterations to the "Feathers Hotel," Bridge-st., and "Roebuck Hotel." Bridge-st., for Greenall, Whitley & Co., Ltd., Wilderspool Brewery.

Wednesbury.—T.C. received sanction to borrow £39,855 for 48 houses, Dangerfield-ln., and 100 houses, Crankhall-ln.

Whitehaven.—T.C. to apply to M.H. for permission to erect 120 houses by direct labour.

Wigan.—J. Green, builder, Atherton-rd., Hindley Green, propose 40 houses, Carr Common Farm, Hindley Green.

Wigston.—U.D.C. approved :—12 pairs of houses on Hayes estate, Oadby-ln.

Wigton.—Cumberland E.C. propose elementary school. J. Forster, F.R.I.B.A., County Architect, 18, St. John's North, Carlisle.

Workington.—T.C. propose public slaughter house at £17,000. Plans by B.S.—Extensions to public swimming bath at £3,200.

Worsborough.—Clarkson's Old Brewery (Barnsley), Ltd., Duke-st. Brewery, propose rebuilding "Vine Tavern," Worsborough Common. Dyson, Cawthorne & Coles, architects, 25, Regent-st., Barnsley.

Yeovil.—Two new senior schools at £40,000 been sanctioned by B. of E.

York.—Society of Friends proposes enlargement of girls' school at The Mount.

NEW PUBLIC WORKS

BRISTOL.—T.C. proposes erection of a central clinic at Marybush-lane, Bristol, and tenders are now invited, returnable by June 24. Specifications from the quantity surveyors, Messrs. Gleeds, 40, Corn-street, Bristol, on deposit of £5 5s.

CHIPPING NORTON.—Twelve pairs of houses are proposed by T.C. on the Churchill-road site, with roads and water main. Specifications from Borough Surveyor, Burford-road, and tenders returnable by June 6.

DURHAM.—County Works Committee has approved a five years' programme of roads and bridge works to cost £1,397,183, which have been forwarded to the Ministry of Transport for approval. The following are some of the bigger schemes :—Elimination of Teams level crossing, £35,378; Crawcrook diversion scheme, £31,064; new arterial roads, diversions, costing approximately £750,000; widening of road and reconstruction of Oakley Cross Beck Bridge at West Auckland, £10,000; and reconstruction of Spring Gardens Bridge, £11,000. The schemes have been prepared by Mr. W. J. Merrett, County Surveyor, 43, Old Elvet, Durham.

GLASGOW.—T.C. invite applications to tender for the construction of an institution for 1,200 mental defectives at Lennox Castle, Lennoxtown, Stirlingshire. Plans are by Messrs. Wylie, Wright and Wylie, chartered architects, 204, West Regent-street, Glasgow, C.2. Applications must be made by June 6 to Mr. David Stenhouse, Town Clerk, Glasgow.

GODSTONE.—R.D.C. propose (a) 25 cottages at Limpsfield, (b) 10 cottages at Tatsfield, and (c) 12 flats at Old Oxted. Specifications, on deposit of £2 2s., from Mr. S. Easter, Engineer, Council Offices, Godstone.

MANCHESTER. — Manchester Housing Committee estimate an outlay in five years on housing of £7,774,814. This sum represents the proposed erection of 17,058 houses and flats, which are to be built as follows :—In 1936-7, 4,000; 1937-8, 4,026; 1938-9, 3,032; 1939-40, 3,000; and 1940-41, 3,000. Of these 5,000 houses are to be constructed at Wythenshawe, and 6,948 on other estates, while 5,110 are to be residential flats.

MANCHESTER.—The Electricity Committee of the T.C. propose to erect sub-station buildings at (a) Crab-lane, Higher Blackley, and (b) Stockport-road, Northern Etchells. Specifications may be had from Mr. H. C. Lamb, Chief Engineer, Electricity Department, Town Hall, Manchester, on £1 1s. deposit. Tenders by June 7.

MIDDLESBROUGH.—E. C. invite tenders for alterations to the Education Offices, Woodlands-road. Builders wishing to tender should make application, with £2 2s. deposit, to the Director of Education, Education Offices, Middlesbrough, by May 31.

MORECAMBE.—T.C. propose construction of a paddling pool at Sandylands, to plans by Mr. R. B. Savage, M.Inst.M. & Cy.E., Borough Engineer, Town Hall, Morecambe and Heysham, from whom quantities are obtainable on £3 3s. deposit. Tenders by May 29.

SURREY.—Surrey C.C. in April, 1934, gave approval to a scheme for the establishment of a mental deficiency colony at Botleys Park at an expenditure not exceeding £430,000 for the first section, for the accommodation of 1,200 patients and the requisite staff. The preparation of the working drawings of the first section is approaching completion, and they will shortly be submitted to the Board of Control for statutory approval. The requisite Committee hope to be in position to recommend the Council at their meeting in July to accept tenders. Plans are by Messrs. J. M. Sheppard and Partners, 38, Bedford-place, W.C.1.

SWANSEA.—Builders desiring to tender for the erection of the Library Building, University College of Swansea, are invited to send their names for selection to Mr. Edwin Drew, registrar, Singleton Park, Swansea, by June 10. Plans for the Library, which will be a reinforced concrete building with brick walls, are by Mr. Verner O. Rees, F.R.I.B.A., 16, Harpur-street, W.C.1.

NEW CINEMAS

BALLYMENA.—A syndicate has purchased a site opposite the Ballymena Courthouse, Ulster, for an up-to-date cinema. Preliminary arrangements have been completed, and building operations, it is understood, will be started at an early date.

BATH.—Union Cinemas, Ltd., propose the erection of a cinema on a site at Westgate-buildings and Avon-street, which has been the subject of negotiation between Mr. N. D. FitzGerald and the corporation. Preliminary plans have been prepared by Mr. W. E. Trent, F.R.I.B.A., architect to the company, at 123, Regent-street, London, W.1.

BLACKPOOL.—The directors of the Waterloo Picture House, Waterloo-road, South Shore, are proposing to increase the seating accommodation in the theatre.

CHARING CROSS ROAD.—Mr. A. E. Abrahams, 25, Shaftesbury-avenue, W.1, announces that work will commence shortly on the reconstruction of the Garrick Theatre as a super cinema. There will be seating space for 1,400 persons. The architect is Mr. Arthur B. Jackson, F.R.I.B.A., 3, New-square, Lincoln's Inn, W.C.2.

ENFIELD.—The contract for the cinema at Eaton-road and Southbury-road has been placed with Messrs. A. T. Rowley (London), Ltd., Cambridge Works, Lordship-lane, N.17. The building will seat 2,500. Mr. George Coles, F.R.I.B.A., 40, Craven-street, W.C.2, is the architect.

GATESHEAD.—The contract for the building of a new cinema at Low Fell, to seat 1,000 people, has been let to Mr. H. Waller, Back Waller-street, Newcastle-upon-Tyne, by Messrs. Smelts' Theatres, Ltd. Plans are by Mr. E. M. Lawson, 19, Ridley-place, Newcastle-upon-Tyne.

GLASGOW.—Tenders are now being invited for the large cinema to be built in Shawland-road and Kilmarnock-road, Shawlands, for Mr. Harry Winocour, 108, West Regent-street, Glasgow. The cost will be about £50,000, accommodation being provided for 2,500 persons. The architects are Messrs. John MacKissack and Sons, 68, West Regent-street, Glasgow.

MANCHESTER. — Mr. Peter Leigh, "Farmer's Arms," Wythenshawe-road, Northenden, propose additions to the Coronation Hall Picture House, Longley-lane, Northenden. Plans are by Mr. W. Cheetham, 40, Church-street, Didsbury. Contracts not placed.

MOTHERWELL.—Amended plans have been passed by Motherwell Dean of Guild Court for the erection by the Cinema Construction Co., Ltd., Glasgow, for Associated British Cinemas, Ltd., of a new cinema in Windmill-hill-street, on the site on which the New Century Theatre now stands. The new picture house is to be called the Regal Cinema, and will accommodate 2,000 patrons. The estimated cost of the building is £18,000. The architect is Mr. C. J. McNair, L.R.I.B.A., 112, Bath-street, Glasgow.

READING.—Messrs. Calcutt and Hunt, Ltd., builders, Kidlington, have made successful application to Reading Town Planning Committee for permission to erect a cinema at Banbury-road with Mayfield-road.

SWISS COTTAGE.—Eldorado Cinemas, Ltd., Brettenham House, Lancaster-place, W.C.2, have acquired a large corner site at Finchley-road, N.W., for the erection of a cinema to seat about 2,500 persons. No contracts placed yet, but plans are being prepared by Mr. Robert Cromie, F.R.I.B.A., 35, Baker-street, W.1.

WEMBLEY.—Eldorado Cinemas, Ltd., Brettenham House, Lancaster-place, W.C.2, have acquired a site for a new cinema. Plans, for a building to hold about 2,200, are being prepared by Mr. E. Norman Bailey, F.R.I.B.A., Bridge-road, Maidenhead. No contracts placed yet.

WIGAN.—Extensive alterations are to be made to the Hippodrome, for the Wigan Entertainments, Ltd., 1, College-avenue. Messrs. Gray and Evans, 51, North John-street, Liverpool, are the architects, and Messrs. John Johnson and Sons, of Wigan, are the builders.

PRICES CURRENT OF MATERIALS*

Owing to the exceptional circumstances which prevail at the present time prices of materials should be confirmed by inquiry.

BRICKS, &c.

Per 1,000 Alongside, in River Thames up to Mortlake. £ s. d.

	£ s. d.
Best Stocks	4 2 0
Second Hard Stocks	3 10 0

Per 1,000. Delivered at London Goods Stations.

	£ s. d.		£ s. d.
"Phorpres"	*2 8 3	Flettons, B'll'n'se	3 6 3
Flettons at King's Cross	*2 8 3	Best Blue Pressed Staffs	8 5 0
Do., grooved for Plaster	*2 10 3	Do. Bullnose	8 15 0
White Midhurst Facing Bricks (delivered London site)	5 0 0	Blue Wire Cuts	7 0 0
"Phorpres" Whites (King's Cross)	*3 11 3		
"Phorpres" Rustic Facings (King's Cross)	*3 6 3		

Best Stourbridge Fire Brick:—
2½ in. ..... 7 15 0 3 in. 8 15 0
*Delivered to site in W.C. district, 6s. extra per 1,000.

GLAZED BRICKS—

Best White Ivory and Salt Glazed Stretcher	21 0 0	D'ble Str'tch'rs	29 10 0
		D'ble Headers	26 10 0
Headers	20 10 0	One side and two Ends	30 10 0
Quoins, Bullnose and 4½in. Flats	27 10 0	Two sides and one End	31 10 0
		Splays and Squints	28 0 0

Second Quality, £1 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours. Hard Glaze, £5 10s. extra over white.

PARTITION SLABS.

Delivered London Area.

CLINKER CONCRETE.

2" per yd. sup.	1 6	3" per yd. sup.	2 0
2½ " "	1 8	4" "	2 4

CRANHAM TERRA COTTA.

2" per yd. sup.	3 0	3" per yd. sup.	3 8
2½ " "	3 6	4" "	4 7

HEMPSTEAD—KEYED TWO SIDES.

12" x 9" x 2"	2 3	12" x 9" x 3"	2 9
12" x 9" x 2½"	2 6	12" x 9" x 4"	3 6

Per yard super d/d. Free on site, London.

	s. d.	
Thames Ballast	7 3	per yd.
Pit Ballast	6 3	" "
Pit Sand	7 9	" "
Washed Sand	8 3	" "
¾ in. Shingle	7 3	" "
½ in. Broken Brick	11 3	" "
Pan Breeze	3	" "

delivered 2 miles radius Paddington.

CEMENT.

Best British Portland Cement, Standard Specification, delivered London Area in jute sacks (11 to ton), or paper bags (20 to ton) free (non-returnable):—

	£ s. d.
4 ton loads and upwards site ..... Per ton	2 0 0
1 ton to 4 tons site	2 2 0
Alongside Vauxhall in 80-ton lots	1 16 0
"Ferrocrete" Rapid Hardening Cement:—	
4-ton loads and upwards site	2 6 0
1 ton to 4 tons site	2 8 0
Alongside Vauxhall in 80-ton lots	2 2 0

NOTE.—Jute sacks are charged 1s. 6d. each and credited 1s. 6d. nett, if returned in good condition within three months, carriage paid.

"Colorcrete" Nos. 1 and 2 Coloured Rapid Hardening Portland Cement in 1-cwt. paper bags free (non-returnable) in 1-ton lots and upwards site	3 6 0
"Snowcrete" White Portland Cement in 1-cwt. paper bags free (non-returnable) 1 ton and upwards site	8 15 0
Super Cement (Waterproof) paper bags free	3 10 0
Roman Cement	6 15 0
Parian Cement	5 15 0
Keene's Cement, White	5 15 0
" " Pink	5 10 0

PLASTER.

Plaster, Coarse, Pink	2 12 0
" " White	2 17 6
" Fine	5 0 0
Sirapite, Coarse	3 5 0
" Finish	3 13 0
Grey Stone Lime	2 2 0
Chalk Lime	2 2 0
Best Ground Blue Lias Lime	1 17 6
Hair ..... per cwt.	2 2 6
Granite Chippings	1 12 0

NOTE.—Sacks are charged 1s. 9d. each, and credited 1s. 6d., if returned in good condition within three months carr. pd.

Stourbridge Fireclay in sacks 37s. 0d. per ton at rly. dep.

STONE.

	s. d.
BATH STONE.—Delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube	2 10
BEER STONE—RANDOM BLOCK— Free on rail at Seaton Station, per ft. cube	2 3
Delivered free on rail Nine Elms, S.R. per ft. cube	1½
Selected approximate size one way, 1d. per cubic foot extra; selected approximately three sizes or for special work, 3d. per cubic foot extra.	
PORTLAND STONE— Brown Whitbed, in random blocks of 20ft. average, delivered in railway trucks at Nine Elms, S. Rly., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube	4 4½
Do. do. delivered on road waggons at above stations, per ft. cube	4 5½
White basebed, 3d. per ft. cube extra.	
NOTE.—1d. per ft. cube extra for every foot over 20 ft. *average*, and ½d. beyond 30 ft.	

	s. d.
HOPTON-WOOD STONE— Sawn, three or four sides	27 9
CHILMARK—RANDOM BLOCK— At Nine Elms, per ft. cube	3 11
YORK STONE, BLUE—*Robin Hood Quality.* Delivered at any Goods Station London.	
6 in. sawn two sides landings to sizes (under 30 ft. super) ..... Per ft. super	5 6
6in. rubbed two sides, ditto ..... "	6 0
3in. sawn two sides slabs (random sizes),	2 3½
2in. to 2½in. sawn one side slabs (random sizes) "	1 6½
1½in. to 2in., ditto ..... "	1 3½
HARD YORK— Delivered at any Goods Station, London.	
Scappled random blocks .... Per ft. cube	0 3
6-in. sawn two sides landing to sizes (under 40 ft. super) ..... Per ft. super	5 1½
6in. rubbed two sides, ditto ..... "	6 1½
4in. sawn two sides slabs (random sizes) "	3 1½
3in. ditto ditto "	2 8
2in. self-faced random flags .. Per yd. super	7 6

CAST STONE.

Delivered in London area in full van loads, per ft. cube: Plain, 8s. 6d.; Moulded, 9s. 6d.; Cills, 10s. 0d.

SOFT WOOD.

GOOD BUILDING DEAL.

Inches.	Per stan.	Inches.	Per stan.
4 × 11	£23 10	3 × 6	£18 10
4 × 9	22 10	3 × 11	19 10
4 × 8	21 0	2 × 11	19 10
4 × 7	19 0	3 × 9	19 10
3 × 8	17 10	2½ × 9	19 10
3 × 7	18 0	3 × 4½	17 10
2½ × 7	18 0	3 × 4	17 10

PLANED BOARDS.

1 × 11	£22 10	1 × 9	£21 0

PLAIN EDGE FLOORING.

Inches.	per sq.	Inches.	per sq.
⅝	16/-	1½	25/-
¾	17/-	1¾	31/6
1	19/-		

TONGUED AND GROOVED FLOORING.

Inches.	per sq.	Inches.	per sq.
1	21/-	⅝	16/-
1¼	26/-	¾	18/6
1½	32/6	1	22/6

MATCHING (BEST).

Inches.	per sq.
⅝	16/-
¾	18/6
1	22/6

ins. BATTENS	s. d.
⅞ × 2 .. per 100 ft.	2 6

SAWN LATHS.	s. d.
Per bundle	2 3

HARD WOOD.

1 INCH AND UP THICK.

Average price for prime quality.	£ s. d.
Dry Austrian Wainscot, per ft. cube	0 15 0
Dry American and/or Japanese Figured Oak, per ft. cube	0 12 0
Dry American and/or Japanese plain Oak, per ft. cube	0 10 0
Dry sq. edged Honduras Mahogany, per ft. cube	0 14 0
Dry log-cut Honduras Mahogany, per ft. cube	0 16 0
Dry Cuba Mahogany, per ft. cube	1 1 0
Dry Teak, per ft. cube	0 14 0
Dry American Whitewood, per ft. cube	0 10 0
Best Scotch Glue, per cwt.	3 0 0
Liquid Glue, per cwt.	4 7 0 to 5 10 0

HUDDERSFIELD Building Society

Ample funds are available to assist in house purchase. Builders with sound schemes of development are invited to consult with the Society.

Branches throughout the Country.

Write for the Folder "Mortgage Facilities" to The Huddersfield Building Society, Britannia House, 203, Strand, London, W.C.2, or from the Head Office, Britannia Buildings, Huddersfield. Andrew Stewart, C.A., Managing Director.

WHEN YOU INVEST--A HOUSE IS BEST!

SLATES.

First quality slates from Bangor or Portmadoc, carriage paid in full truck loads to London Rate Station. Per 1,000 actual.

	£ s. d.		£ s. d.
24 by 12	29 15 0	18 by 10	15 12 6
22 by 12	25 0 0	18 by 9	13 15 0
22 by 11	22 10 0	16 by 10	13 10 0
20 by 12	22 0 0	16 by 8	10 7 6
20 by 10	19 7 6		

TILES.

Delivered at London rate stations in full truck loads of not less than 6 tons. Per 1,000 f.o.r. London.

Best machine-made tiles from Broseley or Staffordshire district	£4 7 0
ditto hand-made ditto	5 0 0
Ornamental ditto	5 8 6
Hip and valley tiles (per dozen) Hand-made	0 9 6
Hip and valley tiles (per dozen) Machine-made	0 9 0

METALS.

	£ s. d.
JOISTS, GIRDERS, &c., TO LONDON STATION, PER TON— R.S. Joists, cut and fitted	£11 10 0
Plain Compound Girders	13 10 0
" Stanchions	16 0 0
In Roof Work	18 10 0

MILD STEEL ROUNDS.—To London Station, per ton.

Diameter.	£ s. d.	Diameter.	£ s. d.
¼ in.	12 0 0	⅝ in. to ½ in.	10 15 0
⅜ in.	11 0 0	⅝ in. to 2½ in.	10 10 0

WROUGHT-IRON TUBES AND FITTINGS—
(Discount off List for lot of not less than £7 net value delivered direct from Works, 2½ per cent. less above gross discounts, carriage forward, if sent from London Stocks.)

	Standard Wrot. Mild Steel Tubes and Tubulars Sizes ⅛in. to 6in.	Genuine Wrot. (Puddled) Iron Tubes and Tubulars Sizes ⅛in. to 6in.	Standard Fittings Sizes ⅛in. to 6in.	Standard Flanges Sizes ⅛ in. to 6in.
	%	%	%	%
Gas	65	52½	57½	70
Water	61½	48½	52½	65
Steam	57½	45	47½	60
Galv. gas.	52½	40	47½	60
Galv. water	47½	35	42½	55
Galv.steam	42½	30	37½	50

C.I. HALF-ROUND GUTTERS—London Price ex Works

Per yd. in 6 ft. lengths.	Gutters.	Angles and Nozzles.	Stop Ends.
3 in.	1/5½	1/1½	4½d
3½ in.	1/6½	1/3	5½d
4 in.	1/6½	1/4½	6½d
4½ in.	1/8	1/6½	9½d.
5 in.	1/10½	1/8½	10d

O.G. GUTTERS.

3 in.	1/7½	1/5½	7d.
3½ in.	1/9½	1/5½	7½d.
4 in.	1/11	1/6½	8½d.
4½ in.	2/0	1/9½	9½d.
5 in.	2/4½	2/0½	11½d.

RAIN WATER PIPES, &c.

Per yd. in 6 fts.	Pipe,	Bends, stock Branches, angles, stock angles.
2 in.	2/2½	1/4½ 2/0
2½ in.	2/3½	1/6½ 2/4½
3 in.	2/9½	1/11 2/10½
3½ in.	3/3½	2/3½ 3/3½
4 in.	3/9	2/9 4/0½

Less 20 per cent. trade discount.
Tonnage allowance—4-ton lots, 5 per cent.
2-ton lots, 2½ per cent.

L.C.C. COATED SOIL PIPES—London Prices ex Stock.

	Pipe,	Bends, stock Branches, angles, stock angles.	
	s. d.	s. d.	s. d.
2 in. per yd. in 6 fts. ..	2 9½	2 0	2 5½
2½ in. " ..	3 2	2 2½	3 0½
3 in. " ..	3 6	2 5½	3 7½
3½ in. " ..	3 9½	3 0½	4 2½
4 in. " ..	4 2½	3 4½	4 10½

L.C.C. COATED DRAIN PIPES—London Prices ex Stock.

	Pipe,	Bends, stock Branches, angles, stock angles.	
	s. d.	s. d.	s. d.
4 in. per yd. in 9ft. lengths	3 4½	4 3	7 0
	cwt. qr. lbs.		
6in. "	1 1 20..	5 0	8 9
8in. "	1 2 22..	8 9	13 6
9in. "	2 0 6..	10 3	18 0

Gaskin for jointing 41/- per cwt.

	Per ton in London. £ s. d.		£ s. d.
IRON— Common bars	10 0 0	to	10 10 1.
Staffordshire Crown Bars— Good merchant quality	10 10 0	to	11 0 0
Staffordshire Marked Bars	14 0 0	..	15 0 0
Mild Steel Bars	9 0 0	..	10 0 0
Steel Bars, Ferro-Concrete quality, basis price	8 10 0	..	9 0 0
Hoop iron, basis price	11 0 0	..	12 0 0
" Galvanised	27 10 0	..	28 10 0

* The information given on this page has been specially compiled for THE BUILDER, and is copyright. The aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

PRICES CURRENT OF MATERIALS—(*contd.*).

IRON—	Per ton in London. £ s. d.	£ s. d.
Soft Steel Sheets, Black—		
Ordinary sizes, to 20 g.	11 0 0 ..	11 10 0
,, ,, ,, 24 g.	12 0 0 ..	13 0 0
,, ,, ,, 26 g.	14 0 0 ..	15 0 0
Sheets Flat Best Soft Steel, C.R. and C.A. quality—		
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g. ..	14 0 0 ..	15 0 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 22 g. and 24 g.	15 0 0 ..	16 0 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 26 g.....	17 10 0 ..	18 10 0
No. 1 quality £4 per ton extra.		
Flat and Galvanised Corrugated Sheets—		
Ordinary sizes, 6 ft. to 9 ft. to 20 g.	13 10 0 ..	15 0 0
Ordinary sizes, 6 ft. to 9 ft. to 22 g. and 24 g...	15 10 0 ..	16 10 0
Ordinary sizes, 6 ft. to 9 ft. to 26 g.	16 10 0 ..	18 0 0
Sheets, Galvanised, Flat, Best quality—		
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker	14 10 0 ..	16 10 0
Best Soft Steel Sheets, 22 g. and 24 g.	15 0 0 ..	17 0 0
Best Soft Steel Sheets, 26 g.	16 10 0 ..	18 0 0
Cut Nails, 3 in. to 6 in.	15 10 0 ..	17 0 0
(Under 3 in. usual trade extras.)		

METAL WINDOWS.—Standard sizes, suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 1s. 4d. to 1s. 7d. per foot super.

COPPER.

		s. d.
Seamless Copper tubes (basis)	per lb.	0 9
Strong sheet	,,	0 10
Thin	,,	0 11
Copper nails	,,	1 0
Copper wire	,,	0 11

PLUMBERS' BRASS WORK.

Delivered in London.

NEW RIVER PATTERN SCREW DOWN BIB COCKS FOR IRON.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.	
29/-	45/-	76/-	153/-	246/-	510/-	per doz.

NEW RIVER PATTERN SCREW DOWN STOP COCKS AND UNIONS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.	
41/6	62/-	92/-	174/-	300/-	588/-	per doz.

RIVER PATTERN SCREW DOWN MAIN FERRULES.

½ in.	¾ in.	1 in.	
39/-	60/-	116/6	per doz.

CAPS AND SCREWS.

1¼ in.	1½ in.	2 in.	3 in.	3½ in.	4 in.	
7/6	10/-	14/-	23/-	30/-	42/-	per doz.

DOUBLE NUT BOILER SCREWS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.	
7/6	11/-	17/-	29/-	36/-	63/-	per doz.

BRASS SLEEVES.

1¼ in.	2 in.	3 in.	3½ in.	4 in.	
10/-	12/-	20/-	24/-	31/-	per doz.

NEW RIVER PATTERN CROYDON BALL VALVES S.F.

½ in.	¾ in.	1 in.	1½ in.	1¾ in.	
35/-	56/-	98/-	162/-	228/-	per doz.

DRAWN LEAD P. & S. TRAPS WITH GLASS CLEANING SCREW.

	1¼ in.	1½ in.	2 in.	3 in.	
3 lbs. P. traps	33/-	41/-	56/-	101/-	per doz.
3 lbs. S. traps	35/-	45/-	66/-	126/-	per doz.

TIN.—English Ingots, 2/5 per lb. SOLDER.—Plumbers' 1/-, Tinmen's, 1/2, Blowpipe, 1/3 per lb.

LEAD &c.

(Delivered in London.)	£ s. d.
LEAD.—Sheet, English, 4l. . and up.....	21 0 0
Pipe in coils	21 10 0
Soil pipe.....	26 15 0
Compo pipe	28 0 0

NOTE.—Country delivery, 20/- per ton extra lots under 3 cwt. 4/- per cwt. extra, and over 3 cwt. and under 5 cwt., 2/6 per cwt. extra. Cut to sizes, 4/- cwt. extra.

Old lead, ex London area, at Mills..... per ton £12 5 0

PAINTS, &c.

	£ s. d.
Raw Linseed Oil, in pipes .....per gallon	0 2 5
,, ,, ,, in barrels .... ,,	0 2 7
,, ,, ,, in drums .... ,,	0 2 9
Boiled ,, ,, in barrels .... ,,	0 2 10
,, ,, ,, in drums .... ,,	0 3 0
Turpentine, in barrels ..... ,,	0 5 2
,, in drums (10 galls.).. ,,	0 5 4
Genuine Ground English White Lead, per ton	46 0 0
(In not less than 5-cwt. casks.)	
Extra for 1-cwt. kegs over 5-cwt. casks is 5/9 cwt.	

GENUINE WHITE LEAD PAINT.

"Father Thames," "Nine Elms," "Park," "Supremus," "St. Paul's," "Morganswyte," "Polacco," "J" Brand, and other best brands (in 14-lb. tins) not less than 5-cwt. lots per ton delivered	£ s. d.
Red Lead, Dry (packages extra) ....per ton	64 0 0
Best Linseed Oil Putty ..... per cwt.	33 0 0
Size. XD quality ..... fkn.	0 13 6
	0 3 0

VARNISHES, &c.

		Per gallon
Oak Varnish .....Outside		0 14 0
Fine Do.	Do.	0 16 0
Fine Copal	Do.	0 18 0
Pale Copal	Do.	1 0 0
Pale Opal Carriage	Do.	1 4 0
Best Do.	Do.	1 12 0
Floor Varnish .....Inside		0 18 0
Fine Pale Paper	Do.	0 18 0
Fine Copal Cabinet	Do.	1 2 0
Fine Copal Flatting	Do.	1 0 0
Hard Drying Oak.....	Do.	0 18 0
Fine Hard Drying Oak	Do.	0 19 6
Fine Copal Varnish	Do.	1 0 6
Pale Do.	Do.	1 12 0
Best Do.	Do.	1 2 6
Best Japan Gold Size		0 12 6
Best Black Japan.....		0 10 0
Oak and Mahogany Stain (water).....		0 12 0
Brunswick Black		0 7 6
Berlin Black		0 14 0
Knotting (patent).....		0 15 0
French and Brush Polish		0 12 0
Liquid Dryers in Terebene		0 9 0
Cuirass Black Enamel		0 7 0

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.

	per ft.		per ft.
15 oz. fourths .. 2¼d.		32 oz. fourths	6½d.
15 ,, thirds .... 2½d.		32 ,, thirds	8½d.
21 ,, fourths .. 3½d.		Obscured Sheet, 15 oz.	3d.
21 ,, thirds .... 3¾d.		,, ,, 21 ,,	4¼d.
26 ,, fourths .. 4½d.		Fluted, 15 oz. 6¼d.,21 oz. 9d.	
26 ,, thirds .... 5¼d.		Em'ld 15 oz. 4½d.,21 oz. 5½d.	

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED plate in CRATES OF STOCK SIZES.

	Per ft.
Rolled plate ¼ in.	4¼d.
Rough rolled ⅜ in.	5¼d.
Rough rolled ½ in.	5¾d.
Figured, Rolled, Baltic, Oceanic, Arctic, Stippolyte, and small and large Flemish White....	5¼d.
Do. tinted	8d.
Rolled Sheet	5d.
White Rolled Cathedral	5d.
Tinted Do.	7¼d.

Cast plate is same price as rough rolled.

"VITA" GLASS.	Per ft s. d
Clearsheet—not exceeding 1 foot	1 0
Do. do. 2 feet	1 3
Do. over 2 feet	1 9
Polished plate—not exceeding 1 foot	1 6
Do. do. 2 feet	3 0
Cathedral—not exceeding 1 foot	1 0
Do. larger sizes	1 6
Horticultural Sheet and Cathedral "Vita" Glass. Sizes up to 24 inches by 18 inches or not exceeding 3 feet	1 0
3/16 in. Wired Georgian Design. Sizes up to 96 inches long by up to 24 inches wide.....	2 9

BUILDING TRADE WAGES IN SCOTLAND*

Following are grade rates authorised by the Scottish N.J.C. for the Building Industry. Painters by ruling of the Scottish National Painters' and Decorators' Joint Council, have from January 1 new rates. Grade A towns, 1/6 per hour; Grade B, 1/4; Aberdeen has a special rate of 1/5½. The new rate for Plasterers has been fixed at 1s. 6½d. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur.

Grade Classification....	A	A¹	A²	A³	B	B¹	B²	B³
Craftsmen	1/6	1/5½	1/5	1/4½	1/4	1/3½	1/3	1/2½
Labourers	1/1½	1/1½	1/0½	1/0½	1/0	/11½	/11½	/11

Aberdeen .....A	Dundee .....A	Hawick .....A²	Perth .....A
Airdrie.....A	Dunfermline ...A	Helensburgh ...A	Perthshire .....A²
Alexandria .....A	Dunoon .....A	Inverness .....B	Peterhead .....A³
Arbroath.....A	East Lothian...A	Kilmarnock...A	Renfrewshire .....A
Ayrshire .....A	Edinburgh .....A	KincardineshireA	Rothesay .....A
Bathgate.....A	Falkirk .....A	Kinross-shire ...A	Roxburghshire ...A²
Bo'ness .....A	Forfarshire ...A²	Kirkcaldy .....A	St. Andrews .....A
Broughty Ferry ...A	Fort William B	Lanarkshire ...A	Selkirkshire .....A
Clackmannanshire...A	Galashiels .....A²	Leith .....A	Stirling .....A
Coatbridge .....A	Glasgow .....A	Midlothian .....A	Stirlingshire, WestA
Dumbartonshire ...A	Greenock.....A	Motherwell ...A	West Lothian ...A
Dumfries.....A²	Hamilton .....A	Peeblesshire ...A²	Wishaw .....A
Dumfriesshire.....A²			

* The information given in this table is copyright. The rates of wages in various towns in England and Wales are given on page 991.

THE SCOTTISH BUILDER

NEW BUILDINGS:

ABERDEEN.—EXTENSION.—Mr. James B. Nicol, 367, Union-street, Holburn, is the architect for reconstruction and extensions to the drapery warehouse of Messrs. J. Falconer, Ltd., Union-street, Adelphi.

ABERDEEN.—RECONSTRUCTION.—The Corporation have approved of prepared plans for the reconstruction of the bridge over the railway in Whinhill-road. The plans have been submitted to the L.N.E.R. for their approval. The City Engineer estimates at £10,200. Mr. Thomas Henderson, engineer, Castlegate-square.

ARBROATH. — HOUSING. — The Housing Committee have approved erection of the type plan of houses to be built at Rosebank Home and Guthrie Hill. Total scheme comprises 276 houses. Mr. J. Hogg, Burgh Surveyor and Architect.

BELLSHILL.—RESIDENCE.—Plans prepared for a new £3,000 residence for the Medical Officer of the County Hospital. Mr. John Stewart, architect, Albert-street, Motherwell.

DALRY.—INSTRUCTION CENTRE.—Ayrshire County E.C. are to negotiate for ground at James-street, Dalry, as a site for a junior instruction centre.

DUMFRIES. — HOUSES. — Dean of Guild Court has passed plans for the erection of 140 houses by the Town Council on a site at Brucefield.

DUNDEE.—BUILDINGS.—Plans and sections of proposed new buildings, etc., have been lodged at the office of the Engineer:—Balgillo-road—bungalow for J. Clunie; Balfield-road—additions for Richmond Bros.; Brown-street and Long-lane, B.F.—workshop and garage for W. D. Watt; Church-street, B.F.—alterations for Thomas Nicoll (architects, Maclaren, Soutar and Salmond, 15, South Tay-street); Clepington-road—dining-hall for North British Linoleum Co., Ltd.; Collingwood-street—villa for F. H. Bradbury (architect, T. L. Gray, 2, India-buildings); Elgin-street—dwelling-house for R. Brand (architects, Maclaren, Soutar and Salmond, 15, South Tay-street); Glamis-road—garages for W. A. Adam; Marchfield-terrace—garages for C. R. W. Gray (architects, Thoms and Wilkie, 21, South Tay-street); 90, Nethergate—alterations for W. H. Mill (architects, Maclaren, Soutar and Salmond, 15, South Tay-street); Roseangle—dwelling-houses for Inglis Shepherd (Dundee), Ltd. (architect, J. Findlay, 33, Albert-square); 68, Wellgate—alterations for W. T. Martin (architect, W. M. Wilson, 61, Meadowside).

EAST LINTON.—HOUSES.—The T.C. have decided to borrow £5,448 to meet the cost of the erection of houses under their housing scheme.

EDINBURGH.—ADDITIONS.—Plans prepared for additions in Marchmont-road for the Directors of the Bank of Scotland, and also for a scheme of reconstruction and laundry extensions in Stenhouse-road, Shaughton. Messrs. Reid and Forbes, architects, 17, Great Stuart-street.

EDINBURGH.—BUILDINGS.—Plans for the extension of Murrayfield Golf School were passed at Edinburgh Dean of Guild Court, to cost between £5,000 and £6,000. Provision will be made on the ground floor for indoor bowls and skittle alleys, and on the second floor there will be six additional badminton courts, making a total of 12 courts. The scheme also includes additional dressing-rooms and a lounge.

EDINBURGH. — EXTENSION. — Plans prepared and approved by Messrs. Thompson and Norris Manufacturing Co., Ltd., 248, Easter-road, for an extension and reconstruction scheme in their factory on the Glasgow-Edinburgh-road, Corstorphine. Mr. J. R. MacKay, architect, 4, Melville-street.

EDINBURGH.—RECONSTRUCTION. — Messrs. Reid and Forbes, FF.R.I.B.A., 17, Great

(*Continued on page 999.*)

CURRENT PRICES FOR BUILDING WORK IN LONDON*

EXCAVATOR.

		s.	d.
Digging and throwing or wheeling and filling carts, and carting away to shoot—6 ft. deep	per yard cube	8	0
Add if in clay	,, ,,	1	0
Add for every additional depth of 6 ft.	,, ,,	0	6
Planking and strutting to trenches	per foot super	0	3
Do. to sides of excavation, including shoring	,, ,,	1	0

CONCRETOR.

Portland cement concrete in foundations 1 to 6	per yard cube	24	0
Add if in underpinning in short lengths	,, ,,	5	0
Add if in floors 6 in. thick	,, ,,	2	0
Add if in beams	,, ,,	2	6
Add if aggregate 1 : 2 : 4	,, ,,	8	0
Add for hoisting not exceeding 10 ft. beyond the first 10 ft.	,, ,,	1	6

BRICKLAYER.

		£	s.	d.
Reduced brickwork in lime mortar and Fletton bricks	per rod	26	0	0
Add if in stocks	,,	6	0	0
Add if in Staffordshire blues	,,	22	0	0
Add if in Portland cement and sand	,,	1	5	0

FACINGS.

Extra for facing in English or Flemish bond for every 10s. per 1,000 over the price of the common bricks	per ft. super	0	0	1½

POINTING.

Neat flat struck or weathered joint	,, ,,	0	0	3

ARCHES.

Extra only to the price of ordinary brickwork :—				
Fair external in half brick rings	,, ,,	0	0	10
Axed in stocks	,, ,,	0	0	9
Rubbed and gauged jointed in putty camber or segmental	,, ,,	0	5	9

SUNDRIES.

Damp course in double course of slates breaking joint and bedded in Portland cement	,, ,,	0	0	11
Setting ordinary register grates and stoves	each	1	0	0
Setting kitchener, including forming flues, &c., with all necessary fire bricks	,,	4	15	0

ASPHALTER.

		s.	d.
Half-inch horizontal damp course	per yard super	4	6
Three-quarter-inch vertical damp course	,, ,,	9	6
Three-quarter-inch on flats in two thicknesses	,, ,,	6	0
Angle fillet	per foot run	0	3
Skirting and fillet 6 in. high	,, ,,	1	0

MASON.

York stone templates fixed	per foot cube	12	9
York stone sills fixed	,, ,,	22	0
Bath stone and all labour fixed	,, ,,	10	6
Beer stone and all labour fixed	,, ,,	15	0
Portland stone fixed	,, ,,	15	6
Chilmark stone fixed complete	,, ,,	16	6

SLATER.

Welsh 16 in. × 8 in. 3 in. lap. including nails	per square	70	0
Do. 20 in. × 10 in. Do. Do.	,,	71	6
Do. 24 in. × 12 in. Do. Do.	,,	73	6

CARPENTER AND JOINER.

Fir framed in plates	per foot cube	3	6	
Do. joists	,, ,,	4	0	
Do. roofs, floors and partitions	,, ,,	4	6	
Do. trusses	,, ,,	6	9	
	¾″	1″	1¼″	2″
Deal rough close boarding per sq.	30/-	35/-	43/-	70/-

Flat centering for concrete floor, including struts or hangers	,,	50	0	
Do. to beams	per ft. sup.	0	8	
Centre for arches	,,	1	6	
Gutter boards and bearers	,,	1	0	

FLOORING.

	¾″	1″	1¼″	1½″
Deal-edges shot per sq.	—	38/-	45/-	52/-
Do. tongued and grooved ,,	—	43/-	50/-	58/-
Do. matchings ,,	40/-	45/-	—	—
Moulded skirtings, including backings and grounds per ft. sup.	1/4	1/7	1/9	2/3

SASHES AND FRAMES.

One-and-a-half moulded sashes or casements	per foot super	1	9	
Two Do. Do. Do.	,, ,,	2	0	
Add for fitting and fixing	,, ,,	0	2	
Deal cased frames with 1 in. inner and outer linings, 1½ in. pulley stiles tongued to linings, hard wood sills with 2 in. moulded sashes in squares, double hung, double hung with pulleys, lines and weights, average size		3	3	

DOORS.

	1¼″	1½″	2″
Two-panel square framed per ft. sup.	2/1	2/3	2/5
Four-panel Do. ,,	2/4	2/6	2/9
Two-panel moulded both sides ,,	2/6	2/9	2/11
Four-panel Do. Do. ,,	2/9	2/11	3/2

CARPENTER AND JOINER—continued.

FRAMES.

		s.	d.
Deal wrot moulded and rebated	per foot cube	12	0

	1″	1¼″	1½″
Plain deal jamb linings framed per ft. sup.	1/7	1/8	1/11
Deal shelves and bearers ,,	1/2	1/4	1/7
Add if cross-tongued ,,	2d.	2d.	2d.

STAIRCASES.

	1″	1¼″	1½″	2″	2½″
Deal treads and risers in and including rough brackets	2/0	2/3	2/8	—	—
Deal strings wrot on both sides and framed	1/8	2/-	2/2	2/8	—

		s.	d.
Housings for steps and risers	each	0	11
Deal balusters, 1 in. x 1½ in.	per ft. run	0	9
Mahogany handrail, average 3 in. x 3 in.	,, ,,	5	6
Add if ramped	,, ,,	11	0
Add if wreathed	,, ,,	22	0

FIXING ONLY IRONMONGERY (INCLUDING SCREWS).

6 in. barrel bolts	8½d.	Rim locks	2/-
Sash fasteners	11½d.	Mortice locks	4/6
Casement fasteners	1/5	Patent spring hinges and letting into floor and making good	19/-
Casement stays	1/2		
Cupboard locks	1/5		

FOUNDER AND SMITH.

		s.	d.
Rolled steel joists	per cwt.	15	0
Plain compound girders	,,	18	0
Do. stanchions	,,	20	9
In roofwork	,,	26	6

RAIN-WATER GOODS.

	3″	4″	5″	6″
Half-round plain rebated joints ...ft. run	1/-	1/1	1/3	1/6
Ogee Do. Do. ,,	1/2	1/3	1/9	2/3
Rain-water pipes with ears ,,	1/3	1/10	—	—
Extra for shoes and bends each	2/9	3/11	—	—
Do. stopped ends ,,	1/1	1/4	1/9	2/6
Do. nozzles for inlets ,,	2/2	2/7	3/7	4/-

PLUMBER.

		s.	d.
Milled lead and laying in flashings and gutters	per cwt.	32	0
Do. do. flats	,,	31	0
Extra labour and solder in coated cesspools	each	6	0
Welt joint	per ft. run	0	4
Soldered seam	,, ,,	1	2
Copper nailing	,, ,,	0	3

	½″	¾″	1″	1½″	2″	4″
Drawn lead waste per ft. run	10½	1/2	1/5	2/1	2/5	—
Do. service... ,,	1/1	1/6	1/9	2/8	—	—
Do. soil ,,	—	—	—	—	—	5/-
Bends in lead pipe each	—	—	—	—	2/-	5/6
Soldered stop ends ,,	0/7	0/11	1/3	2/-	2/6	—
Red lead joints ,,	0/9	0/10	1/1	1/7	1/10	3/6
Wiped soldered joints ,,	2/-	2/6	2/9	3/5	4/3	6/-
Lead traps and cleaning screws ,,	—	—	—	10/-	13/-	—
Bib cocks and joints ,,	6/-	9/-	13/-	—	—	—
Stop cocks and joints ,,	10/6	12/6	17/6	50/-	—	—

PLASTERER.

Render, float and set in lime and hair	per yard sup.	2	0	
Do. Do. Sirapite	,, ,,	2	3	
Do. Do. Keen's	,, ,,	3	0	
Add saw lathing	,, ,,	1	4	
Add metal lathing	,, ,,	2	4	
(Not including hangers or runners, etc., for suspended ceilings.)				
Portland cement screed	,, ,,	1	7	
Do. plain face	,, ,,	3	3	
Mouldings in plaster	per 1 girth	0	1½	
One-and-a-half granolithic pavings	per yard sup.	4	6	

GLAZIER.

21-oz. sheet plain	per foot sup.	0	6½
26-oz. Do.	,, ,,	0	7½
Obscured sheet	,, ,,	0	8
⅛-in. rolled plate	,, ,,	0	9
¼-in. rough rolled or cast plate	,, ,,	0	10
¼-in. wired cast plate	,, ,,	1	1

PAINTER.

Preparing and distempering, 2 coats	per yard sup.	0	7½
Knotting and priming	,, ,,	0	7
Plain painting, 1 coat	,, ,,	0	9
Do. 2 coats	,, ,,	1	2
Do. 3 coats	,, ,,	1	9
Do. 4 coats	,, ,,	2	4
Graining	,, ,,	2	3
Varnishing twice	,, ,,	1	9
Sizing	,, ,,	0	3
Flatting	,, ,,	0	7
Enamel	,, ,,	1	1
Wax polishing	per foot sup.	0	6
French polishing	,, ,,	1	2
Preparing for and hanging paper	per piece 2/- to	4/-	

* These prices apply to *new buildings only*. They cover superintendence by foreman and carry a profit of 10% on the prime cost without establishment charges. A percentage of 1½ should be added for Employers' Liability and National Health and Unemployment Act, and from 1s. 6d. per £100 for Fire Insurance. The whole of the information given on this page is copyright.

NEW BUILDINGS IN SCOTLAND

(*Continued from page* 997)

Stuart-street, Westend, are the architects for a scheme of reconstruction and additions to be carried out at Stenhouse-road, Shaughton, for the Snow White Laundry Co., and also a scheme of reconstruction and additions at Marchmont-road, for the Bank of Scotland, while Mr. J. R. MacKay, F.R.I.B.A., 11, Melville-street, Westend, is the architect for a scheme of reconstruction and extensions to the Corstorphine factory of Messrs. Norris and Thompson Co., Ltd., 248, Easter-road.

GLASGOW.—FACTORY.—A factory to be erected at Anniesland, Glasgow, for Messrs. Farquharson Bros., Ltd., carton paper manufacturers, Holland-street, Glasgow.

GLASGOW. — FACTORY. — Messrs. Whyte and Galloway, FF.R.I.B.A., 121, Bath-street, Blythswood, have plans coming before the Dean of Guild Court for a new factory to be erected near Bridgeton Cross.

GLASGOW.—FACTORY.—Plans are being prepared for a new factory for Messrs. Claud Alexander, Ltd., to be erected at Bridgeton. Messrs. Whyte and Galloway, architects, 121, Bath-street.

GLASGOW.—RECONSTRUCTION.—Sir John Burnet, Son and Dick, FF.R.I.B.A., 16, Blythswood-square, Blythswood, Glasgow, W.C., are the architects for two schemes of reconstruction and additions, one at 152 to 170, Renfield-street, for a firm of outfitters, and the other at the Glasgow Western Infirmary; and Messrs. James Aitcheson and Son, FF.R.I.B.A., 170, Hope-street, are the architects for a Clydesdale Bank scheme at Duke-street, Dennistoun.

GLASGOW.—STORE. — Messrs. Jas. M. Munro and Son, 307, West George-street, Glasgow, are architects for a new store for Mesrss, Marks and Spencer, on the site of the Waverley Hotel, Sauchiehall-street.

GREENOCK.—ADDITIONS.—Plans prepared for reconstruction and additions at the Caddlehill Laundry, and plans in hand for the erection at Newark-street, Westend, of a new residence and other offices. Mr. A. MacGregor, architect, Clydesdale Bank-buildings.

GREENOCK.—EXTENSIONS.—An important step in the furtherance of a £200,000 scheme, involving the extension of Princes Pier, Greenock, and the construction of a deep-water berth for the accommodation of Atlantic liners, was taken when, at the invitation of Provost Bell, Greenock, the various interests concerned met in the Council Chambers to discuss the matter. The project has been submitted to Sir Arthur Rose, Commissioner for the special areas in Scotland.

INVERNESS.—HOUSES.—The Town Council have under consideration a scheme for 150 houses on the Longman site.

JEDBURGH.—HOUSES.—T.C. approved layout plan for erection of 80 houses at Headrigg Park under slum clearance scheme.

KILWINNING.—SCHOOL.—Mr. W. Reid, F.R.I.B.A., Wellington-square, Ayr, is the architect for a new Catholic school which the Ayrshire C.C. have decided to erect on the Farm Lands of Bucklands.

METHIL.—HOUSES.—The Methil (Fife) Town Council has presented schemes for 320 houses for the Department of Health for Scotland's approval.

MONTROSE.—HOUSES.—The Town Council has appointed Messrs. W. M. Patrick and Co., 19, High-street, Montrose, as architects for the Ferry-street housing scheme.

MOTHERWELL.—HOUSES.—Dean of Guild Court passed plans for dwelling-houses in Wellview-drive, estimated cost £5,190, for Baxter and Gillon; and dwelling-houses in Brown-street for Scott and Co., Ltd., estimated cost £3,000.

SALTCOATS.—HOUSES.—T.C. to erect 46 additional houses. Cost £12,378.

WEST LOTHIAN.—SHOPS.—Plans have been prepared for scheme of reconstruction, additions and extensions on the Cramond Promenade, including new shops, restaurant, etc. Mr. Thomas Linton, architect, 243, Newhaven-road, Leith.

WINCHBURGH.—HOUSES.—Plans to be prepared for a Council scheme of 36 houses. Mr. Charles Hamilton, architect, 61, High-street, Linlithgow.

TRADE NEWS

Aluminous Cement.

AN interesting feature of this week's issue of *The Builder* is the 32-page Advertisement Supplement issued by The Lafarge Aluminous Cement Co., Ltd., manufacturers of "Ciment Fondu." This company have used the advertisement pages of this journal consistently ever since their establishment, and their confidence in its power as an advertising medium is demonstrated by the fact that *The Builder* is the only publication selected to carry this important announcement. The advertisement was placed by the company's advertising agents, Messrs. Allardyce, Palmer, Ltd., whose order is an endorsement of their clients' high opinion of *The Builder*.

Aluminium Data.

The British Aluminium Co., Ltd., issue from Adelaide House, E.C.4, a well-bound handbook in which are detailed full industrial and engineering data in regard to aluminium and its various alloys. A copy of "Aluminium Facts and Figures" may be obtained on mentioning this paper.

Roofing Glasses.

Messrs. Chance Bros. and Co., Ltd., are reconstructing their Glasgow plant for the manufacture of various window glasses. The new process being installed is of the latest type for the continuous production of roofing glass for factories and ornamental glass for buildings. These works at Firhill, Glasgow, are so situated that they are convenient not only for supplying glass in Scotland, but also to Ireland and the north of England, as well as for shipment from the Clyde to all parts of the world.

Shop-front Contracts.

Messrs. A. Edmonds and Co., Ltd., of Birmingham and London, have secured contracts for new shop-fronts at premises in Bull-street, Birmingham; at West End Hotel, Margate; at premises in Queen-street, Glasgow; at premises at St. Peter's-street, Derby; and at premises at Hurst-street and Bromsgrove-street, Birmingham.

A New Oil Varnish Stain.

In producing "Varnene," a new oil varnish stain for floors, furniture and woodwork, Chiswick Products, Ltd., have launched another speciality. "Varnene" is a product made from a new formula which includes one of the finest wood preservatives known. It gives a tough, waterproof finish which offers special resistance to both wear and weather. It also ensures the quickest drying compatible with easy application and even colour distribution. All materials used in manufacture are subjected to careful analysis in the Chiswick laboratories, to ensure that "Varnene" maintains a uniform excellence of quality. This new varnish stain is supplied by Chiswick Products, Ltd., Chiswick, London, W.4.

Electric Inset Fires.

A brochure, issued from Carron, Falkirk, contains some finely printed illustrations in colour of the Carron Company's "Inset" electric fires. These are designed for building into or fixing against the walls of houses new and houses old. They can be easily placed in any position in the room, while the elimination of chimney breasts and flues effects a considerable saving in building cost. These "Inset" fires are of the radiant type, and are fitted with double pole switches as standard.

The Post Graduate Hospital, Hammersmith.

In the description of this work, illustrated in our last issue, Messrs. J. and E. Hall, Ltd., were referred to as having carried out the electric lighting. This, we regret, was an error, the firm having been responsible for the lifts.

TENDERS

Communications for insertion under this heading should be addressed to "The Editor," and must reach him not later than Tuesday evening.

* Denotes *accepted.*
† Denotes *provisionally accepted.*
‡ Denotes *recommended for acceptance.*
§ Denotes *accepted subject to modifications.*
¶ Denotes *accepted by H.M. Government Departments.*

Aberdeen.—Plaster work for 54 three-apartment houses in Grampin-place, and 24 three-apartment and 12 four-apartment houses, in Tallis-place, for the Corporation. Mr. A. Gardiner, architect, 11, Broad-street:—

*W. Masson & Son, 446a, George-street, Aberdeen	£3,716 14 2

Aberdeen.—Bungalows and other works in Harlaw-road. Mr. Edwin E. Williamson, architect, 154, New-street:—

*J. Bissit & Son, Ltd., Aberdeen.

Bolton.—For additions to Roscoe Fold School, Breightmet, Bolton, for the School Managers. Mr. L. Haworth, architect, Bolton:—

*J. G. Holland, Darley-grove. Farnworth.

Bradford.—Alterations and additions at the Bay Horse Hotel, for Messrs. J. Tetley & Sons, Ltd. Messrs. Kitson, Parish, Ledgard & Pyman, architects, Lloyds Bank-chambers, Vicar-lane, Leeds:—

*J. & A. Furness.

Carlisle.—Supply and erection of framework of clubhouse at Municipal Aerodrome, with subdivision of rooms and the roof, for the Air Base Committee:—

*—. Spiers, Glasgow	£147

Carlisle.—Lodge for the Infectious Diseases Hospital, for the T.C.:—

*J. & R. Bell, Ltd.	£612 7 6

Chelsea.—For X-ray, ante-natal and receiving departments, St. Stephen's Hospital, Chelsea, for the L.C.C. Plans by Architect, County Hall, S.E.1:—

Leslie & Co., Ltd., Kensington	£14,940
Albert Monk, Edmonton	14,790
John Garrett & Son, Ltd., Balham	14,760
W. Walkerdine, Ltd., Kensington	14,732
A. T. Rowley (London), Ltd., Tottenham	14,704
Geo. Parker & Sons, Ltd., Peckham	14,621
G. H. Denne & Son, Ltd., Holborn	14,517
W. H. Gaze & Sons, Ltd., Kingston-on-Thames	14,296
Truett & Steel, Ltd., Thornton Heath	14,234
W. H. Lorden & Son, Ltd., Tooting	14,143
J. & C. Bowyer, Ltd., Upper Norwood	13,997
Killby & Gayford, Ltd., Finsbury	13,238
*H. & J. Taylor, Canada House, Hither Green-lane, S.E.13	12,964

Coalville.—For the erection of handicraft room, etc., at the Broom Leys Modern School, for the Leicestershire E.C.:—

*Orton & Co.	£,522

Coventry.—Extensions to King's Head Hotel, Hertford-street, for The Trust House, Ltd., Short's-gardens, Strand, W.C.2. Messrs. Hattrell & Wortley, architects, 1, Queen's-road:—

*E. Harris & Son, Coventry.
(Estimated cost: £30,000.)

Dingle.—Fever hospital, for the Kerry County B.H.:—

*Fitzgerald & O'Sullivan	£6,394 12 10
J. Murphy, Dingle	5,799 17 1

Doncaster.—Construction of a ropery and head offices at Carr Hill for Messrs. British Ropes, Ltd. Messrs. Holmes, Son & Toothill, A.R.I.B.A., architects, 56, Church-street, Sheffield:—

Builders—*Harold Arnold & Son, Ltd., Doncaster.
Steelwork—*Charles Ross, Ltd., Sheffield.

Dublin.—Five flat dwellings at Tara-street Fire Brigade station, for the T.C.:—

*A. Panton Watkinson	£2,665

Dudley.—Erection of school on Priory estate, for the Board of Education. Messrs. S. N. Cooke, F.R.I.B.A., and W. N. Twist, F.R.I.B.A., architects, Sun-buildings, Bennetts-hill, Birmingham:—

*H. Boot & Sons, Ltd., Sheffield	£12,289

Dungarvan.—Technical school, for the Co. Waterford Vocational E.C.:—

John Hearne & Co., Waterford	£9,500
—. Nolan, Waterford	9,100
—. Healy, Cobh	9,187
*Kavanagh Bros., Clonmel	8,930

Dunmow.—For the erection of houses, for the R.D.C.:—

Felstead (12 houses)—	
*Goodey, Dunmow	£3,774 11 0
Hatfield Heath (10 houses)—	
*Goodey, Dunmow	3,489 7 6

Durham.—Alterations and erection of new cells at the Middleton-in-Teesdale police station, for the C.C.:—

*W. F. Hartley, Darlington £833

Durham.—For additions and alterations to the Ravensworth-terrace school, Birtley. Plans by Mr. F. Willey, 34, Old Elvet, Durham:—

D. Glen, Jarrow £7,111 9 0

Durham.—For the erection of senior mixed school at Burnhope, for the E.C.:—

*J. J. Hodgson & Sons, Surrey £8,042

Ealing.—Electrical wiring of Selborne schools, for the T.C.:—

A. Meckhonik	£1,322 7 10
Wm. Steward & Co.	1,155 0 0
G. E. Thomas	1,124 9 0
T. T. Rudy	980 5 2
T. R. Locke	888 0 0
A. A. Diment	865 13 9
C. H. Simmonds	865 10 0
Mead & Jeffery, Ltd.	845 0 0
Thorpe & Thorpe, Ltd.	774 0 0
St. James Electrical Co., Ltd.	761 10 0
R. Cutting & Co.	745 0 0
Honor Bros.	740 0 0
T. G. Field	732 13 2
C. F. Turner	724 0 0
Watson & May	685 15 0
*Fullick & Loosley, Ltd., Ealing, W.5	662 10 0

Ealing.—Trolley-bus sub-station at the rear of Nos. 41 and 42, Haven-green, for the L.P.T.B.:—

*L. & W. Whitehead, Ltd.

Ealing.—Reroofing of Islips Manor Health Centre, for the T.C.:—

E. Parkinson (London), Ltd.	£725
Fassnidge, Sons & Norris, Ltd.	567
*Thomas Bros., Wembley	488

Ealing.—Health centre at Horseden, for the T.C.:—

Lees of Enfield, Ltd.	£9,080
Burnand & Pickett, Ltd.	8,319
F. D. Hidden & Co.	7,779
*Evan Thomas & Sons, Hanwell	7,684
W. J. Dickens	7,500

Earby.—For (*a*) four three-bedroomed and eight two-bedroomed houses, and four bungalows for aged persons; also (*b*) road, footpath, sewer and surface-water drainage works, for the U.D.C. Mr. H. Wilson, surveyor, Council Offices, Earby, via Colne:—

(*a*) *C. W. Hodgson, Otley, Yorks ... £4,500
(*b*) *W. Cowgill, Earby, via Colne, Lancs 529

Edinburgh.—80 houses and other offices on various sites at new roads and also at Brunswick-road South:—

*T. Sutherland Henderson, 20, Melville-street, Edinburgh.

Essex.—For renovations at Black Motley sanatorium, for the C.C.:—

*F. Lawrence & Son, Braintree £110

Essex.—For (*a*) adaptations at Harold Wood Hall for children's home, and (*b*) fencing, for the C.C.:—

(*a*)* J. T. Luton & Sons, Stratford £755
(*b*) *S. J. Davis, Romford 749

Fife.—For extension to the Adamson Hospital, Cupar. Plans by Messrs. Walker & Pride, architects, Church-square, St. Andrews:—

Mason work—*D. Nairn & Son, Ladybank.
Joiner work—*Stewart & Wannan, Cupar.
Plaster and tiling—*P. W. Hutton, St. Andrews.
Slater and roughcast — *W. Brand & Son, Broughty Ferry.
Terrazzo work — *Tait, Menzies & Bertola, Glasgow.
Roof covering—*F. McNeill & Co., Kirkintilloch.

Glasgow.—Factory extension to the Effendi Works, Cogan-street, Pollockshaws, for Messrs. Donaldson & Filer, Ltd. Mr. James O. Thomson, architect, 212, Bell-street, Glasgow. Messrs. Dansken & Purdie, measurers, 241, West George-street, Glasgow:—

Excavation, brick and mason—*A. MacLellan, Ltd.
Joinery, carpentry and ironmongery — *Dick & Benzie.
Steel construction — *Redpath, Brown & Co., Ltd.
Plumber work and sanitary fittings, etc. — *J. McCulloch.
Plaster—*G. & R. Wemyss.
Slater—*A. C. Whyte & Co., Ltd., Carmyle.
Reinforced concrete—*Siegwart Fireproof Floor Co., Ltd.
(Remainder of Glasgow.)

Glasgow.—Thirty-two houses in Montrave-street, for the Corporation. Mr. W. McNab, F.R.I.B.A., Housing Director's Office:—

Builder—
*H. Bradley £3,863 11 3
Plasterer—
*H. S. Bathgate 484 11 7
Joiners—
*James MacDougall & Co. 2,653 15 7
Sanitary engineers—
*T. Porter & Sons (Glasgow), Ltd. 1,449 6 11
Slaters—
*P. Whyte & Co., Ltd. 460 15 4
(All of Glasgow.)

Halifax.—Erection of garages and houses in Huddersfield-road:—

*E. & T. Bower, Ltd.

Highworth.—30 houses and six bungalows for aged couples, for the R.D.C.:—

*Building & Public Works Construction Co., Ltd. £9,864

Holland.—Erection of new children's homes on (*a*) Fenside-road, Boston, and (*b*) at Spalding, for the C.C. Mr. W. M. Smith County Architect, County Offices, Boston:—

*J. R. Baker, Moulton Chapel, Lincs—
(*a*) £2,079 17
(*b*) 2.199 17

Hounslow.—Demolishing 68-74a, High-street:—

*London Demolition Co., Ltd., 575, London-road, Isleworth.

Hurstpierpoint.—Alterations to the "White Horse" inn, for Messrs. Tamplin & Son's Brewery, Brighton. Mr. A. B. Packham, architect:—

*Ringmer Building Works, Ltd. £2,268

Hyde.—Erection of office block in Greenfield-street, for the Corporation. Mr. J. H. Ward, Borough Surveyor, Town Hall:—

*T. Warrington, Hyde.
(Estimated cost: £9,000.)

Kidderminster.—Erection of 62 houses at Foley Park, for the T.C. Mr. J. Hawcroft, Borough Engineer, 110, Mill-street:—

†B. Denning, Walsall £16,730

Killarney.—Fever hospital, for the Kerry County Board of Health:—

Coughlin Bros., Cork	£31,533 0 0
M. Doyle, Limerick	30,765 0 1
—. O'Sheas, Ltd., Cork	30,481 1 9
J. J. Buttimer & Co., Tralee	28,700 10 11
*Fitzgerald & O'Sullivan, Tralee	25,886 19 4

Lambeth.—For heating services at Lambeth Hospital, for the L.C.C.:—

Clark, Hunt & Co., Ltd., Shoreditch	£7,051
Norris Warming Co., Ltd., St. Andrew's-hill, E.C.4	6,870
Brightside Foundry & Engineering Co., Ltd., Lambeth	6,530
Beaven & Sons, Ltd., Westminster	5,788
*G. N. Haden & Sons, Ltd., 60, Kingsway, W.C.2	5,548

Leeds.—Erection of Pathology Department at Public Dispensary, back Brunswick-street, for the Board of Management. Messrs. Kirk & Tomlinson, architects, Albion-street:—

*B. Coates & Sons, Ltd.

Leeds.—Rebuilding of clothing factory at Ingram-road, for Messrs. J. Barnes & Co., Ltd.:—

*J. T. Wright & Sons, Ltd.

Leeds.—Erection of church of St. Augustine, Harehills, for the Rev. Fr. Leonard. Messrs. Chorley, Gribbon & Foggitt, architects, 3, Park-place, Leeds:—

‡J. T. Wright & Sons, Ltd.

DON'T TENDER UNSUCCESSFULLY

SECURE CONTRACTS WITH

THE STEEL SCAFFOLDING CO., LTD.

80, Regent Street, London, W.1.

Telephone: Regent 1157

Lewes.—Nurses' hostel at Lewes Victoria Hospital. Mr. E. H. Fuller, architect, 19, High-street:—

*Ringmer Building Works, Ltd. £4,484

Leyburn.—For the erection of public conveniences, for the R.D.C.:—

Lawson & Boddy, Darlington ... £359 6 0

Listowel.—District hospital, for the Kerry County B.H.:—

*M. A. Hannon, Listowel £9,321

London (Battersea).—For external and internal painting works and repairs at maternity hospital, for the T.C.:—

*Borough Surveyor £317 8

London (Bethnal Green).—For the erection of one block of 90 dwellings and a workshop on the Holly-bush-gardens site, Bethnal Green, for the L.C.C.:—

Holland & Hannen and Cubitts, Ltd., Westminster	£33,973
Charles S. Foster & Sons, Loughton, Essex	33,870
Harold G. Dyke, St. Marylebone	33,752
William Nicholson & Son (Leeds), Ltd., Warwick-lane, E.C.	33,528
William Moss & Sons, Ltd., Cricklewood	33,390
Sir L. Parkinson & Co., Ltd., Shaftesbury-avenue, W.C.	33,322
Henry Boot & Sons, Ltd., Kensington	33,135
Rowley Bros., Ltd., Tottenham	31,482
Gee, Walker & Slater, Ltd., Westminster	31,300
C. Miskin & Sons, Ltd., St. Albans	31,150
*H. C. Horswill, Ltd., 182, Greenstreet, Forest Gate, E.7	30,980

(Architect's comparable estimate, £30,766.)

London (Bow).—For installation of forced circulation heating and hot-water supply apparatus at the City of London Institution, for the L.C.C.:—

Comyn Ching & Co. (London), Ltd., Holborn	£7,384
Heywood & Bryett, Ltd., Lewisham	7,288
Brightside Foundry & Engineering Co., Ltd., Lambeth	7,102
H. C. Goodman, Ltd., Reading	6,765
Clark, Hunt & Co., Ltd., Shoreditch	6,628
Walter Cowen, Ltd., Hammersmith	5,943
Norris Warming Co., Ltd., Holborn	5,923
H. J. Cash & Co., Ltd., Westminster	5,915
W. G. Cannon & Sons, Ltd., Stockwell	5,894
The Fretwell Heating Co., Ltd., Plaistow	5,791
G. N. Haden & Sons, Ltd., Kingsway	5,736
*Edward Deane & Beal, Ltd., 3, Monument-street, E.C.3	5,430

(Chief Engineer's estimate: £6,000.)

London (Lambeth).—For the construction of raft foundations, etc., for the new fire brigade headquarters on the Albert-embankment, for the L.C.C.:—

Holliday & Greenwood, Ltd., Westminster, S.W.1	£17,920
The Unit Construction Co., Ltd., Adelphi, W.C.2	17,803
Holloway Bros. (London), Ltd., Westminster, S.W.1	17,000
Foster & Dicksee, Ltd., Davies-street, W.1	16,984
John Mowlem & Co., Ltd., Westminster, S.W.1	15,620
Walter Lawrence & Son, Ltd., Finsbury, E.C.2	14,988
Rice & Son, Ltd., Stockwell, S.W.9	14,978
Holland & Hannen and Cubitts, Ltd., Westminster, S.W.1	14,940
*Gee, Walker & Slater, Ltd., St. James's-street, S.W.1	14,825

(Architect's comparable estimate: £15,643.)

London (Lewisham).—For carrying out repairs to chimney shafts at two depots, for the B.C.:—

*J. Smith (Southern), Ltd., ... £165

London (North Kensington).—For the erection of new nurses' home, etc., at St. Charles' Hospital, Ladbroke-grove, for the L.C.C.:—

Unit Construction Co., Ltd., Westminster	£30,362
Ashford Builders' Co., Ltd., Holborn	29,848
C. Miskin & Sons, Ltd., St. Albans	29,800
W. Walkerdine, Ltd., Kensington	29,378
F. D. Hidden & Co., Ltd., Brentford	29,300
Harold G. Dyke, St. Marylebone	28,974
Gee, Walker & Slater, Ltd., Westminster	28,551
Henry Boot & Sons, Ltd., Kensington	28,500
W. H. Gaze & Sons, Ltd., Kingston	28,483
Albert Monk, Edmonton	28,300
*Anglo-Scottish Construction Co., Ltd., 68, Victoria-street, Westminster	26,934
Harry Neal, Ltd., St. Marylebone (*a*)	26,651

(Architect's comparable estimate: £28,519.)
(*a*) Excluded because qualified by a wages clause.

London (Westminster).—For decorations and repairs at the disinfecting station, Grosvenor-road, for the Westminster T.C.:—

Bostels, Ltd.	£272 10 0
P.C.S. (on behalf of Demolition and Construction Co., Ltd.)	261 11 0
Walter Lilly & Co.	254 0 0
Sims & Russell	223 0 0
*Fredk. Cope & Co., Ltd	217 15 6

London (Wandsworth).—For enlargement of the L.C.C. stores depôt and erection of a house. Architect, County Hall, S.E.1 :—

William Harbrow, Ltd., Rotherhithe	£21,925
Gee, Walker & Slater, Ltd., St. James's,	20,102
John Garrett & Son, Ltd., Balham hill	19,345
Kirk & Kirk, Ltd., Putney	18,985
W. H. Lorden & Son, Ltd., Upper Tooting	18,743
Geo. Parker & Sons, Ltd., Peckham	18,720
Higgs & Hill, Ltd., South Lambeth-road	18,459
Rice & Son, Ltd., Stockwell	18,430
E. H. Smith (Croydon), Ltd., Croydon	18,314
W. H. Gaze & Sons, Ltd., Kingston-on-Thames	17,983
Rowley Bros., Ltd., Tottenham	17,976
Albert Monk, Edmonton	17,810
*J. & C. Bowyer, Ltd., Westow-street, Upper Norwood, S.E.19	17,720

(Architect's comparable estimate, £17,753.)

London.—L.C.C. have accepted tenders for the following works :—

Local office and relief station, Harrow-road, W.9 :—	
Internal cleaning, painting and repairs—	
*George Jones & Son	£679 0 0
Waldram-road relief station :—	
Alterations and additions—	
*T. Rutter & Son	1,357 0 0
Bromley House institution :—	
External cleaning, painting and repairs—	
*E. Proctor & Sons	1,093 0 0
Chelsea institution :—	
Internal cleansing, painting and repairs—	
*Lilly & Sons, Ltd.	737 0 0
Islington institution :—	
Fire precautions and means of escape in case of fire—	
*J. D. Hobson, Ltd.	528 0 0
Installation of heating apparatus, hot water supply apparatus, steam and condense mains—	
*The Fretwell Heating Co., Ltd.	1,776 10 0
Internal and external cleaning, painting and repairs, etc.—	
*Geo. Jones & Son	2,598 0 0
Poplar institution :—	
Demolition of disused mental observation wards and the formation of a new covered way, etc.—	
*W. H. Wagstaff & Sons	1,145 0 0
St. Marylebone institution :—	
Installation of electric lighting and the reorganisation of the fire alarm system—	
*Davis Myer & Co.	574 16 6
Internal cleansing, painting and repairs—	
*Lilly & Sons, Ltd.	847 0 0
Swaffield-road institution :—	
Internal cleansing, painting and repairs—	
*H. Lawrence & Sons	799 0 0
Westminster institution :—	
Improvement of means of escape in case of fire and alterations to receiving ward block—	
*Harry Groves & Son	2,146 0 0
Internal cleansing, painting and repairs—	
*Geo. Jones & Son	1,149 0 0
Westminster institution and St. Stephen's hospital :—	
Electrical installations—	
*Malcolm & Allan (London), Ltd.	1,436 12 1

¶London.—Contracts placed by the Director of Contracts, Air Ministry, during the week ending May 11 :—

Feltwell—construction of Royal Air Force station—F. R. Hipperson & Son, Ltd., 6, Broad Street-place, E.C.2.
Constructional steelwork—Wright, Anderson & Co., Ltd., Gateshead-on-Tyne.
Heating and hot-water installation—Walter Cowen, Ltd., Hammersmith, W.6.
Internal electrical-wiring installation—Anderson, Angell & Co., Ltd., Finsbury, E.C.2.

Marham—construction of Royal Air Force station—F. R. Hipperson & Son, Ltd., 6, Broad Street-place, E.C.2.
Constructional steelwork—Wright, Anderson & Co., Ltd., Gateshead-on-Tyne.
Heating and hot-water installation—Dilworth & Carr, Ltd., Preston, Lancs.
Internal electrical-wiring installation—Anderson, Angell & Co., Ltd., Finsbury, E.C.2.

Harwell—construction of Royal Air Force station—John Laing & Son, Ltd., Mill Hill, N.W.7.
Constructional steelwork—The Fairfield Shipbuilding & Engineering Co., Ltd., 9, Victoria-street, S.W.1.
Heating and hot-water installation—Dilworth & Carr, Ltd., Preston.
Internal electrical-wiring installation—Anderson, Angell & Co., Ltd., Finsbury, E.C.2.

Mildenhall—erection of various buildings—M. & F. O. Foster & Co., Ltd., York-road, Hitchin.
Northolt—builders' work in clothing "C" type shed (brickwork and concreting)—E. J. Logan, 212a, Shaftesbury-avenue, W.C.1.
Pulham—steel framework sheds—Croggon & Co., Ltd., 230, Upper Thames-street, E.C.4.

London.—Erection of the central electricity rectifier sub-station in Commercial-road East, for the Stepney B.C. Mr. Bernard J. Belsher, F.R.I.B.A., M.I.Mech.E., M.Inst.C.E., Borough Engineer and Surveyor :—

Tileman & Co, Ltd.	£8,473 16 11
Galbraith Bros., Ltd.	8,455 0 0
Peter Lind & Co., Ltd.	8,214 4 8
D. G. Somerville & Co., Ltd.	8,076 3 6
Christiani & Nielsen, Ltd.	8,038 19 10
J. Jarvis & Son, Ltd.	7,888 0 0
F. Mitchell & Son, Ltd., Manchester	7,662 0 0
Holborn Construction Co., Ltd.	7,654 8 5
Demolition and Construction Co., Ltd.	7,560 0 0
*J. L. Kier & Co., Ltd., 142, Victoria-street, S.W.1	7,466 4 11

(Remainder of London.)
(Estimate of Borough Engineer and Surveyor, £8,160.)

¶London.—Following is a list of works contracts placed by the Director of Contracts, Air Ministry, during the week ending May 18 :—

Waddington, Lincolnshire — construction of R.A.F. station :—
Building—*Henry Boot & Sons, Ltd., Sheffield.
Constructional steelwork—*Wright, Anderson & Co., Ltd., Gateshead-on-Tyne.
Heating and hot-water installations—*The Brightside Foundry & Engineering Co., Ltd., Birmingham.
Internal electric wiring—*Anderson, Angell & Co., Ltd., E.C.2.

Ternhill, Shropshire—construction of R.A.F. station :—
Building—*Henry Boot & Sons, Ltd., Sheffield.
Heating and hot-water installations—*The Brightside Foundry & Engineering Co. Ltd., Birmingham.
Internal electric wiring—*Anderson, Angell & Co., Ltd., E.C.2.

Odiham, Hampshire—construction of R.A.F. station :—
Building—*Sir Lindsay Parkinson & Co., Ltd., 171, Shaftesbury-avenue, W.C.2.
Constructional steelwork — *The Fairfield Shipbuilding & Engineering Co., Ltd., S.W.1.
Heating and hot-water installations—*The Brightside Foundry & Engineering Co., Ltd., Birmingham.
Internal electric wiring—*Electrical Installations, Ltd., S.W.1.

Calshot—reconstruction of pier :—
*Christiani & Nielsen, Ltd., Marsham-street, S.W.1.

Lee-on-Solent—additional accommodation :—
*John Hunt, Ltd., Cleveland-road, Gosport.

Cranwell—heating and hot-water supply :—
*Brightside Engineering Co., Birmingham.

¶London.—Following are contracts entered into by H.M.O.W. for week ending May 16 :—

Rexine—I.C.I. (Rexine), Ltd., Hyde, Cheshire.
Shaw Employment Exchange—alterations—E. E. Coleman, Ltd., 11, Washway-road, Sale, Manchester.
Houses of Parliament—erection of timber gantry in Old Palace Yard—J. Mowlem & Co., Ltd., 91, Ebury Bridge-road, S.W.1.
Chairs—extensible—W. Bartlett & Sons, Ltd., High Wycombe, Bucks.
Swindon Telephone Exchange—erection—E. W. Beard, Ltd., Building Contractors, Swindon.
Ponders End Telephone Exchange—erection—L. T. Buckley, Ltd., 14-16, Lower Regent-street, S.W.1.
Newcastle Station Sorting Office—construction of superstructure to lifts—A. Pringle, Ltd., Cramer Dykes, Gateshead.

London.—Redecorations and repairs to the joint church in the cemetery at East Finchley, for the St. Pancras and Islington B.C.s :—

Marchant Hirst & Co.	£185 0
Whitbys, Ltd.	126 10
W. G. Berry & Son	125 10
*F. C. Stockman, Ltd., 1a, Rosemont-parade, North Finchley, N.12	109 0
Wallis & Stanley	92 0

(All of London.)

Maldon.—For improvement at the institution, for the Essex C.C. :—

*C. O. Belcham, Kelvedon £1,588 18

Mansfield.—Additions to factory, Stockwellgate and Radford-street, for the Mansfield Shoe Co., Ltd. Messrs. Cooke, Howard & Lane, architects, Brunt's-chambers, Leeming-street :—

*H. Blythe & Son, Mansfield.

Merioneth.—Council school at Cwm, Abergeirw, near Dolgelly, for the C.C. Mr. N. L. Jones, County Architect, Dolgelly :—

*Evans Bros., Montgomery £1,774

Motherwell.—For the erection of 80 houses, for the T.C. :—

Excavator and brick works—
*Wm. Chambers & Sons, Ltd., Motherwell £18,539
Carpenter, joiner and glazier works—
*Wm. Chambers & Sons, Ltd., Motherwell 12,691
Slater and roughcast works—
*J. & J. Thomson, Motherwell 3,784
Plumber work—
*R. W. Muir, Motherwell 5,717
Plaster and cement work—
*H. M'Lean, Motherwell 2,230
Painter work—
*S. M'Cormack & Son, Motherwell 1,136
Electrical work—
*S. Harvie, Wishaw 1,255

Newcastle-on-Tyne.—Alterations to premises in Grey-street, for Messrs. Peart :—
*J. R. Rutherford & Sons, Minories Joinery Works, Jesmond, Newcastle.

Newcastle-on-Tyne.—New hotel at the junction of Stephenson-road and Heaton-road, for Messrs. James Deuchar, Ltd., brewers. Messrs. Marshall & Tweedy, FF.R.I.B.A., architects, Mervyn House, Pilgrim-street :—

*J. Lunn & Son, St .Mary's-place, Newcastle-on-Tyne.

Newton Mearns.—New Bank of Scotland and a new bank house at Kilmarnock-road and The Knave-road :—

*D. Brown, 60, Tolworth-gardens, Glasgow.

Nottingham.—Alterations to the "Jolly Higglers" public-house, Ilkeston-road, for Messrs. James Shipstone & Sons, Ltd. Messrs. W. B. Starr & Hall, architects, 12, Victoria-street :—

*H. Bowles, Nottingham.

Ringmer.—House in Ringmer-park. Mr. H. T. B. Barnard, architect, 7, Gower-street, Bedford-square, London, W.C.1 :—

*Ringmer Building Works, Ltd. £11,610 13 10

Rushden.—Houses, for the U.D.C. :—

	16 houses.	6 houses.
*W. Thompson & Sons, Irthlingborough	£4,694	£1,788

Saltcoats.—Three hundred houses and other accommodation on the Rocky Park housing site, for the Corporation. Messrs. Hugh Thomson & Son, FF.R.I.B.A., architects and quantity surveyors, 60, Hamilton-street :—

Builder—*A. Gibson, Saltcoats.
Slaters—*A. Park & Sons, Strathavon.
Glazier—*J. Thom, Ayr.
Plasterers—*R. McCallum & Sons, Saltcoats.
Electrician—*J. Jamieson, Saltcoats.
Joiner—*N. J. Gow, Kilwinning.
Painters—*D. MacAuslan & Son, Stevenson.

BUSH HOUSE
EXTENSION

QUARZITE
HARDER THAN GRANITE

JOHN STUBBS & SONS
64-70 VAUXHALL BRIDGE ROAD S.W.1
272 CROWN STREET LIVERPOOL 7

Sanquhar.—28 houses, for the T.C. Mr. William Scott, architect:—

	Per block of two houses.
No. 3 type—	
Builder—	
*A. Carruthers, Thornhill	£175 8 0
Joiner—	
*James Duff, Sanquhar	170 9 0
No. 4 type—	
Builder—	
*A. Carruthers	189 12 0
Joiner—	
*James Duff	191 10 0
No. 5 type—	
Builder—	
*A. Carruthers	**207 12 0**
Joiner—	
*W. Duff & Sons, Sanquhar	205 10 7
Roads and paths—	
*M. Martin, Dumfries	881 5 0
Iron fencing—	
*E. Martin & Sons, Closeburn	222 8 0

Seaham Harbour.—For additions to Girls' Secondary school. Plans by Mr. F. Willey, 34, Old Elvet, Durham:—
D. Glen, Jarrow £1,684 12 0

Shifnal.—Rebuilding the Summer House public-house at Boningdale, for the Wolverhampton and Dudley Breweries, Ltd. Messrs. Lavender & Twentyman, F. & A.R.I.B.A., architects, Waterloo-chambers, Waterloo-road:—
*H. Willcock & Co., Ltd., Wolverhampton.

Sleaford.—Alterations and addition to Institution, for the P.A. Committee:—
Alterations and additions—
*Thos. Roper & Son, Sheffield £18,599
Erection of casual wards—
*Thos. Roper & Son 4,199
Engineering work—
*Ashwell & Nesbit, Ltd., Leicester ... 10,490
Electric lighting—
*W. J. Furse & Co., Nottingham... ... 983
(Subject approval of C.C.)

Stirling.—For erection of County Offices at Viewforth:—
Carpenter work—*A. Christie & Sons, Stirling.
Mason and brick work—*D. Stewart, Bonnybridge.
Steel sashes—*Crittall Manufacturing Co., Ltd., Glasgow.
Plaster and cement — *D. Robertson & Sons, Denny.
Terrazzo and marble work—*Toffolo, Jackson & Co., Glasgow.

Stockton-on-Tees.—Erection of Newham Grange School and gymnasium, for the E.C. Mr. G. P. Stainsby, architect, 25, High-street:—
*G. Dougill & Sons, Chestnut-street, Darlington.

Swansea.—102 houses (16th contract) at Mayhill, for the C.B. Borough Architect:—
‡Direct Labour £32,851 15 9
(In lieu of previous tender.)

Taunton.—14 houses on the Galmington housing site, for the T.C.:—
‡H. Taylor & Sons £4,581 17 6

Totnes.—Completion of 12 houses and erection of 24 more at Collapark, for the T.C.:—
J. W. Spencer, Plymouth £9,930
R. & W. Coles, Buckfastleigh 8,687
*T. Brook, Totnes 7,938
Torquay Builders, Ltd. 7,850

Uttoxeter.—For erection of 20 houses on Timber-lane estate:—
*Derwent (Builders), Ltd., Derby.

Weybridge.—Erection of residence at St. George's-hill. Mr. Harry Osborn, F.F.A.S., incorporated architect, 45, North-street, Chichester:—
*Jones & Sons, Maidenhead £2,770

Weymouth.—Two four-bedroom houses, 10 three-bedroom houses, 20 two-bedroom houses and 16 flats for aged persons at White Roughet, for the T.C.:—
‡James Bros. £12,282

Whiston.—For erection of 80 houses, for the R.D.C. Messrs. Gornall & Wainwright, L.R.I.B.A., architects, 8, Hardshaw-street, St. Helens:—
*J. W. Lee, Ltd., Chorley £24,928

Whitby.—Sectional café at Happ Valley, for the U.D.C.:—
*Garbutt & Sons, Sleights.

Woking.—For (*a*) the erection of 44 houses at Westfield and demolition of cottage, and (*b*) construction of roads and sewers, for the U.D.C.:—
(*a*) *A. E. Jones, Ltd. £14,398 0 0
(*b*) *Constable & Hart, Ltd. 2,328 6 7

Worcester.—Alterations at Shrub Hill railway station:—
*E. C. & J. Key (1926), Ltd.

York.—For erection of 200 houses and 44 flats on Water-lane housing estate, for the T.C. Mr. F. W. Spurr, City Engineer, Town Hall:—
*Tarran's Industries, Ltd., Hull £79,989

Wrotham.—Erection of the Margaret McMillan House, Wrotham, Kent. Mr. H. T. B. Barnard, architect, 7, Gower-street, Bedford-square, London, W.C.1:—
*Ringmer Building Works, Ltd. £11,912 18 6

'phone Bayswater 0163 (2 lines)
that urgent inquiry for:—
WOOD BLOCK FLOORING, in Deal, Pine, Pitchpine, Maple, Jarrah, Gurjun, Oak, Teak, etc.
T. & G. BOARD FLOORS in above woods
STRIP OAK FLOORS, ¾" and 13/16" thick
PARQUET FLOORS, PORTABLE FLOORS, SPRING FLOORS
TURPOLITH Composition Floors
Ask for Booklet "B"
TURPIN'S Parquet Flooring Co. 25, Notting Hill Gate, W.11
(Established 1860)

HANKIN & CO.
PAVING CONTRACTORS :: AND MERCHANTS ::
Road and Path Construction.
Tar-Paved Tennis Courts and Playgrounds.
Tarmacadam.
Tarpaving.
Crazy, York Random and Artificial Slabs.
Concreting.
Gravel Drives, etc.
Tar and Bitumen Dressing.
Gravel, Sand, Shingle, Ballast, Cement, Granite, Chips, etc.
Rockery Stone.
2½, 4 and 6 Ton Rollers for Hire.
SOUTHWOOD ROAD, NEW ELTHAM, S.E.9.
Telephone: ELTHAM 1742

BUY BRITISH
FLOORINGS
WOOD BLOCK PARQUET
SOLID T&G HARDWOOD
PANELLING
POINT PLEASANT LONDON S.W.18
Stevens & Adams Ltd.
PHONE PUTNEY 4701 2-3-4

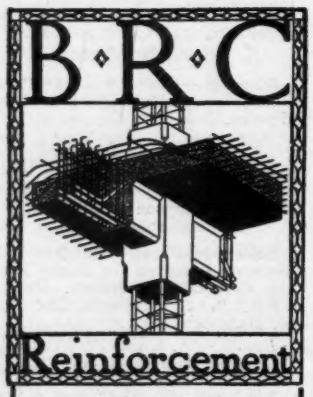
PARQUETRY
WOOD BLOCK FLOORS
JEFFERISS (CAMBERWELL) LTD.
45, Grove Lane, S.E.5 Phone: Rodney 3012
BRITISH WORKMEN ONLY

FITZPATRICK & SON
MASONS & PAVIORS
GRANITE MERCHANTS
SETTS & KERB (SH. & RD.)
ROAD AND SEWER CONTRACTORS
455, OLD FORD ROAD, LONDON, E.3
Telephones: ADVANCE 2991 (5 lines).

WOOD BLOCK FLOORING AND WOOD PAVING
The IMPROVED WOOD PAVEMENT CO., LTD.
BLACKFRIARS HOUSE, NEW BRIDGE STREET, LONDON, E.C.4

Telegrams: "Frolic Liverpool." 'Phone 228 Bank
E. B. BURGESS & CO.
Tower Building, Water Street, Liverpool
WOOD BLOCK FLOORING AND PARQUETRY.

HOSPITAL & SCHOOL STOVES
SOLE MAKERS OF
WRIGHT'S IMPROVED AND ALSO SHORLAND'S PATENT WARM AIR VENTILATING PATTERNS.
GEO. WRIGHT (LONDON) LTD
19 NEWMAN ST. OXFORD ST. LONDON, W.1.



The BRITISH REINFORCED CONCRETE ENGINEERING CO., LTD.
Head Office: STAFFORD

RICKER LIBRARY
JUN 26 1935
DEPT E

If you are interested in the use of Cement for any purpose, it will be to your advantage to peruse this Special Supplement and to file it for reference at any time

THE LIBRARY OF THE
JUN 24 1935
UNIVERSITY OF ILLINOIS

This Supplement contains an alphabetic geographical index to Stockists in all parts of the British Isles, from any of whom you can obtain immediate supplies of

CIMENT FONDU
BRITISH MADE

For further copies of this Supplement write to:

LAFARGE ALUMINOUS CEMENT CO. LTD.
LINCOLN HOUSE, 296-302, HIGH HOLBORN, LONDON, W.C.1
TELEPHONE: HOLBORN 6431. TELEGRAMS: CIMENFONDU, HOLB, LONDON

How and when it pays a Contractor to use Ciment Fondu

COPY OF A PAPER READ BEFORE THE LONDON BUILDERS' FOREMEN'S ASSOCIATION ON 6th SEPTEMBER, 1934

BY

S. E. JAMES

GENERAL FOREMAN

in the employ of

Messrs. JOHN MOWLEM & CO., LTD.

91, EBURY BRIDGE ROAD, LONDON, S.W.

In the course of the last seven years I have used *Ciment Fondu* for a wide variety of jobs, and the experience gained has taught me that this comparatively expensive cement is capable of saving us, as Contractors, considerable sums of money, so that to-day I use the material automatically when the circumstances calling for its use arise.

I am not, of course, referring to those conditions where chemical attack of some sort is to be feared, as in such cases the matter is out of the Contractor's hands and its use is embodied in the specification. I refer to cases where we use the material in order to save ourselves time and money. Speaking generally, the saving of money usually takes the form of saving in shuttering and materials—*i.e.*, timber, nails, labour, a saving of space and also a big saving on plant and overheads, as well as the saving of time. That these savings are considerable, can be best shown by giving definite examples from my own personal experience.

REINFORCED CONCRETE PILES

The making of reinforced concrete piles is getting very general all over the country, and seems very much on the increase, and it is one of the many special jobs on which *Ciment Fondu* can be used to great advantage in regard to time and main cost. Say, for instance, that you require 12 piles a day—15 in. by 15 in. by 30 ft. long. The first thing to do is to lay down a pile casting bed, about 32 ft. by 32 ft., so as to lay down 15 bottoms for the piles to be cast on. The extra three bottoms are needed to start making piles first thing each morning while shifting the piles, 24 hours old, off the bottoms, on which they have been cast, so as to follow on with the making and get the three clear bottoms empty again, ready for the next day's work, and so on. Timber shuttering required for casting moulds would be 15 bottoms, 12 pairs of side moulds, 12 shoe boxes and 12 heads—that is, if you use *Ciment Fondu*.

Now take making piles with rapid hardening Portland cement. Requirements as before, 12 piles per day, the size of the bed required for casting same would be approximately 64 ft. by 80 ft. or 5,120 ft. super., to lay down 78 bottoms to cast the piles on. I am taking a six-day week, and the six extra bottoms laid down are to start clear the following week while the cast piles are rolled or lifted off bottoms to make room for making and casting piles. Under these conditions the shuttering required would be 78 bottoms, 24 pairs of side moulds, 24 shoe boxes and 24 heads. The first pile would be ready for lifting and driving at the earliest seven days after making, and then that is taking a big chance with the driving of the piles. I myself would rather wait until the piles were at least nine to ten days old for good driving. If you drive seven days after making, you are six days behind with your driving against a pile made with *Ciment Fondu*. Another stoppage may occur due to cold and frosty weather; you have to stop making and you can still go on with the driving, which means every day you are stopped for frost you have lost a day's driving as well as a day's making. If you were using *Ciment Fondu* the frost could continue and you could carry on with the making and driving in the same way as if frost conditions did not

CIMENT FONDU
BRITISH MADE

exist. You still can keep your stock up as required. If the driving is very hard, my experience with driving piles made of various brands of cement is that a pile made as it should be made with *Ciment Fondu* will stand the hardest driving required, and give the best results.

I do not think it is any use at this time of speeding-up work to talk about using Portland cement for pile making, as the waiting times are too long, and I do not think any contractor or builder in these days would stop to consider for a moment using it to make a small cost save, and get a lot of inconveniences.

There is one item that must be mentioned, and one that must be done without fail. After *Fondu* piles have been made six hours, they require steady watering to keep them damp, and then strike the side shuttering after six to nine hours. It is quite safe anywhere within the margin. After seven hours it does not matter what the weather is like—take no notice of that unless it is raining hard and you are making the piles out in the open; then you would not need to water them while it was raining, but after the pile has been made seven hours you must water and continue watering as required up till it is 23 hours old. You can then lift them, transport them and drive them with success to the sets required.

Ciment Fondu concrete requires the same amount of working or punning as all other cements used in the casting of reinforced concrete piles.

Another good point which should be mentioned. *Ciment Fondu* should always be used for splicing and lengthening piles. They can be lengthened and again driven after the lengthened piece has been cast only 24 hours, and before the pile has taken up all the side friction. It does not take as many blows to get it to start entering again, as the longer a pile stands before it has to be re-driven the more the side friction increases, and it takes more blows and time to get it to start entering again and to get to the required sets.

One thing which is very important. To lay a pile bed as it should be laid is a very expensive job, and the cost has to be borne by the contractor against the job. *Ciment Fondu* saves you *four-fifths* of this *cost* in the first place. Secondly, the piles when cast and matured do not have to be moved so far. This may mean that only one crane will have to be used to span the pile casting bed when using *Ciment Fondu*, against two or three that would be required and a lot of extra rails to deal with the larger pile bed, or else the piles would have to be rolled for a considerable distance, damaging bottoms and causing settlement in the bed, which causes another expense for rolling, and then repacking and levelling beds; also repairing damaged bottoms.

Some settlements of the pile beds are bound to occur from time to time with the weight of the cast piles and water from the concrete, which undermines a little, so the bed needs constant attention, in order to keep the piles, when cast, good and linable, which is necessary for good driving. It is a lot simpler, and a cheaper item to keep a pile bed of 1,000 ft. super in good condition, than to keep a bed ***5,000 ft.*** super in the same condition to cast piles on. Big items of space, time, materials and carting are saved here by using *Ciment Fondu*.

ROAD WORK

The contractor and his foreman become particularly concerned with roads when these are part of a general job, such as a factory building or approach roads on public utility jobs. If you have to make a concrete road on raw ground, it is as well to remember that if you use *Fondu* for it you will be able to use the road almost as you lay it, to support your plant road and carry materials for the road itself, and you do not have to stop the job for frost. Also, however urgently the road is wanted, if it is *Fondu* it will not be damaged by harsh treatment while the concrete is young, as it is fit for any amount of hard work when only a day old.

About five years ago I laid a road which was required very urgently in Tilbury Docks, to connect the new Dunkerque service quay to the entrance road. The required road was 250ft. long and 24 ft. wide on a bad, yielding soil foundation. *Ciment Fondu* concrete was used throughout in slabs 24 ft. wide by 13 ft. long by 8 in. thick, reinforced with two layers of B.R.C.

When the last bays had been deposited only 22 hours, the road had to be thrown open for traffic, and among the first batch of vehicles was a lorry weighing 18 tons loaded. Even under the best conditions, it would not be safe to let rapid hardening Portland concrete take such a pounding even at seven days on similar ground. This particular road, though it took heavy strain when less than a day old, is still carrying traffic and is in perfect condition, and I do not think it has yet cost a penny piece for repairs.

GENERAL BUILDING

Ciment Fondu is particularly valuable to the contractor when engaged on a difficult job, say, mostly below ground and in bad ground with water trouble and running sand, and heavy buildings all round the site, with foundations at a higher level than your excavations. By using *Ciment Fondu* you can get your underpinning and etceteras done quicker and cheaper.

You do not have to leave your timbering, which you have to use for shoring up the existing buildings, for more than a sixth of the time, and you do not have to carry the risk of the other building anything like as long as you would with other brands of cement. In 24 hours the underpinning would be matured ready to take the weight estimated for it to carry and a heavy over-

CIMENT FONDU
BRITISH MAD

GENERAL BUILDING CONTD.:

load if need be. Keeping excavations open longer than necessary adds a big risk to the old buildings, which may, for anything you know, be weak or faulty and end by slipping or settling or even falling into your excavations. When you take the earth and packing away from the foundations of an old building, you may be letting yourself in for all sorts of trouble, through moving earth, underground streams, or springs and old waterways, and drains, etc., and the less you take away at one time, the better and safer for everybody concerned.

If you use *Ciment Fondu* for your underpinning, you can do a little each day, and the following day it is hard and strong enough to take all the strain required of it, and you need not worry or be afraid of yards and yards of half-set concrete, which may squeeze out or crumble if anything unforeseen happens.

An instance of a job of this kind with which I was concerned a few years ago was at a store in Kingston. A very large shop basement had to be built, and existing buildings round parts of the site underpinned, and a road to support for heavy town traffic. On this job *Ciment Fondu* was a great success.

The bottom of the foundations for the basement were approximately 21 ft. deep below pavement level, and the trouble on this job was land water and river tidal water. The method adopted was to bag the bottoms of the foundations with *Ciment Fondu* and sand mixed together, and filled into jute bags, flattened out as mats, 3 in. thick, and laid over the bottoms of the foundations and general floor of the excavations. The next operation was to mix and lay a 6 in. layer of *Ciment Fondu* concrete on top of the bag work, so as to make a layer 9 in. thick over the whole of the excavation, keeping the water down with pumps while coming on with the concreting.

The next operation was to asphalt over the 6 in. of *Ciment Fondu* concrete before depositing the weighting concrete on top to make it a certain water-tight job. By using *Ciment Fondu* we were able to asphalt on the 6 in. layer after it had been deposited into position only eight hours, which enabled the job to be finished before its given time. It would have been impossible for this job to have been done with any other brand of cement in the required time.

I found on this job that the best mix to hold the water down, and to cut down the voids as near as possible, was four parts shingle, three parts sand and one part *Ciment Fondu*, and this mixture was very satisfactory.

Or another instance, a wine cellar had to be built 24 ft. below the pavement level and in running sand. On top of the cellar was a store room and over that a garage with roof garden and balustrade.

Conforms metal shuttering was used for most of this job, and very little was needed. The concrete mixed at six to one made with ballast and sand and *Ciment Fondu*. Most of the ballast used was excavated on the site.

This job was done during very severe weather, and would have had to be interrupted for frost at very awkward times if any other cement had been used. In spite of very severe frosts the job was just carried on as if the weather had been normal, and was a first-class job when finished, without a crack or flaw anywhere, and to-day it is still bone dry and as good in every way as the day it was completed.

A very useful thing about *Ciment Fondu* is the way it takes paint. You can paint it as soon as it is dry, and the paint does not flake off or discolour, as paint, distemper, and whitewash do when used on all other kinds of cement. The balustrade on this job was painted bright orange and black as soon as it was completed, and even the orange colour paint stood perfectly without flaking or discolouring, and the original paint is quite good even to-day, after five years' exposure to sun and weather.

The great advantage of using *Ciment Fondu* for awkward jobs of this sort, is that even if it does cost a bit more, you get it back one way and another, and you do have only one definite extra cost which you can allow for; but you cannot allow for the extra cost you will be put to if you use Portland cement on this kind of job, because water running all over your job will mean you have to have pumps working, and you do not know how many or how long, and the longer they work, the more cement and sand are drawn by them out of the pumpings. Every delay means that some plant such as cranes, etc., cannot do their work, and so they are not earning their hire.

When the job gets behind, materials which have been ordered arrive before you are ready for them, and clutter up the room you require to work in, and have perhaps to be moved several times, which costs money and time, and sometimes damage also; on top of all this, the man who is running the job has to be running about all the time to get a clear space for his gangs to work in, and cannot give proper attention to his real job, which is getting a good job at a reasonable cost, and if he gets delays and the site disorderly as a consequence, he might soon find that instead of running the job, the job is running him.

It is very difficult to estimate even very roughly how much delays cost, and it is not usual to regard delays as a serious cost, chiefly because they do not have to be paid for every Friday or Saturday in a packet like wages, and nobody sends in a bill for them, but it has to be paid some time in some way and with good money, the same as everything else in the building line.

CIMENT FONDU
BRITISH MADE

GENERAL BUILDING CONTD.:

I have found that a few bags of *Ciment Fondu* used when required will save pounds in time and labour. On one job I had in the east of London, another story was required urgently over an existing boiler room and store. A brick pier had to be cut away on the ground floor and replaced with a steel column. The steel was on site before starting to cut out pier. The steelworkers fixed and finished all except the one column to be fixed in the place of cut out pier. As soon as this column was fixed, the work started on the main job from first floor up—the only part below first floor level was the column in place of brick pier. Work on this was started at the same time as the main work. This was grouted up, reinforced, shuttered, and concreted with *Ciment Fondu* concrete. In two days, the column 18 ft. behind the other work was got up level with the preceding work, and able to take its proper place and weight with the other work. If other cement had been used the work would have been behind all the way up with the other construction, and would not have been a fair workable job; and the bonding would not have been so strong or good as it is now; and that was done with only a few bags of *Ciment Fondu*, and a lot of messing about and trouble to that job saved at a cost of perhaps 12s. 6d. over Portland.

At the same factory there had always been a lot of trouble with the concrete floors of boiling rooms, caused by sugar and glucose eating into the surfaces. This trouble was got over by laying 2 in. of *Ciment Fondu* mixed with granite chippings and sand over the whole of the floor surfaces, to protect the main conrete against the attack of the sugar and glucose, and boiling water—and it turned out, when finished, quite a success.

You can lay *Ciment Fondu* concrete on top of Portland or Ferrocrete surfaces, but before doing so you have to prepare the surface of the concrete required to be recovered. Old concrete must be hacked; no smooth surfaces must be left; after it has all been properly hacked, clean off with strong soda water; it wants well cleaning, and after cleaning it with soda water, wash it off with clean water. If this is done well, the new *Ciment Fondu* concrete will well mate with the existing bottom layer, and make a successful job. When the concrete (made up of granite chippings and sand or shingle and sand and *Ciment Fondu*) has been placed and trowelled, and is about seven hours old, dam round the edges with suitable material about 2 in. high, and gently flood the surface with clean water till the whole of the topping is covered $\frac{1}{4}$ in. to $\frac{3}{8}$ in. deep. and let the water stand on the surface 15 to 16 hours, so as to well mature the floor, then clear off the water and you will find you have a good and a successful floor, safe against acids and sugar and etceteras.

Another small use I made of *Ciment Fondu* was at an experimental Air Force establishment There was a table foundation made of concrete, about 650 ft. long, 11 ft. wide, standing on piles. The top of the table foundation was required to have a very smooth surface on which to lay tarred paper, so as to enable a tank, when cast on the top, to expand and contract, according to the weather conditions. This concrete on the surface of the table foundation was not smooth enough after being finished with a steel float, so it required to be rubbed down quite smooth. To do this rubbing down a large-size carborundum rubbing stone was made on this job, say, 5 ft. 6 in. by 3 ft. 6 in. by 7 in. thick, with coarse carborundum powder and *Ciment Fondu* in equal amounts mixed together and placed in a mould, and kept under water 20 hours. The block was quite a success. It had to be dragged from one end to the other until there was a smooth and dead-true surface.

Portland or Ferrocrete would have been neither quick enough nor hard enough for this little job. Yet if I had not been in the habit of using *Ciment Fondu* for little jobs of this sort, I might have held the job up seven or eight days—for a paltry job like this.

Again, on a job I had some few years ago in the Surrey Hills. A large farm had only a poor water supply, depending mostly on a small pond. The owner decided to improve matters by installing a system of tanks to catch the rain water from the roofs of the cottages and farm buildings, and inter-connecting the tanks with troughs so as to supply drinking water for the cattle in all parts of the farm. Eight tanks were built altogether, all in *Ciment Fondu* concrete and reinforced with bars. The two largest were 20 ft. long by 6 ft. by 6 ft., all the catching tanks were connected to a storage tank, and from that the troughs, etc., were fed, each trough and storage tank being controlled by a guarded ball valve or screw valve. All the troughs were also built of *Ciment Fondu* concrete. The entire job was done neatly and conveniently in *Ciment Fondu* in very severe weather over four years ago, and all are in splendid condition and watertight to-day.

It is not generally recognised that even if *Ciment Fondu* is used for the whole of the concrete work in a building, the total additional cost is a very small percentage on the job, after taking into account savings on time, overheads, plant, shuttering, etc., and the savings through being able to use the concrete already cast to support plant, materials, etc., instead of keeping in use shuttering, props. and struts to support the immature concrete, since these can all be taken down in 24 hours, and space and materials can be used to good advantage on the job. The advantages of having the building in commission at a very much earlier date will, in many cases, pay the extra cost time over again.

I am of opinion that if jobs were more looked into, a lot more *Fondu* would be used to the advantage of everyone concerned, and would well pay for its extra cost.

CIMENT FONDU
BRITISH MADE

Testimony from many

PILE LENGTHENING

"The cement was used for making 12-in. reinforced concrete piles, 40 ft. long and it was also used for scarfing together piles which had to be driven in two lengths, owing to lack of head room for driving."

FOUNDATIONS FOR LAUNDRY MACHINERY

"I have pleasure in informing you that we used *Ciment Fondu* for laying the foundations for a Suction Decouden in a laundry, and, as the work had to be completed during three or four days' holiday, it was necessary to use a quick-hardening cement. The machine was put to work practically at once after being placed on the foundations, which proved thoroughly satisfactory."

CONCRETING UNDER WATER

"I have used *Ciment Fondu* for the pavement of a bridge across a river, where the concrete had to be placed in about 18 inches of quiet water (between piers and abutments), and it gave excellent results, for next day the paving was quite hard and level. The concrete was deposited under water by means of common buckets."

RAISING MANHOLES

"We invariably use *Fondu* when we are raising manholes on asphalt surfacing, and in these instances the road is thrown open to traffic within 24 hours after the manholes have been raised to new levels."

REPAIRING TREADS TO STONE STEPS

"We have used *Ciment Fondu* for repairing treads to stone steps in a public building, and, owing to the quick-hardening properties, the treads, completed overnight, were capable of use by the public on the following day without injury to the nosings."

CONCRETE ROADWAY

"We have used *Ciment Fondu* for making a roadway in a wharf where only the week-ends could be allowed for working and the traffic had to pass over the wharf after two days."

TRAMWAY FOUNDATIONS

"About 140 tons *Fondu* have been used in laying reinforced concrete foundations on portions of the Otley Road, Barkerend Road, Nelson Street and Manningham Lane sections of tramway. Owing to the exigencies of traffic, it was necessary for tramcars to run over the new foundations very quickly, and this was done, in some cases, 36 hours after the concrete was laid."

CIMENT FONDU
BRITISH MADE

users of Ciment Fondu

SLABBING TILED FIREPLACES

"As one of the original tile manufacturers to develop the slabbing of tile fireplaces, it has been necessary for us to ensure our productions being of only the finest possible materials. In *Ciment Fondu* we find the material uniform in quality, of great strength and quick setting, and have for the last few years used it in the production of all our slabbed goods."

WATERPROOFING

"We have used the *Ciment Fondu* on a lily-pond we have just constructed. Before we rendered the sides and bottom of this pool, we filled it with water, and overnight half the water was missing, having soaked away through the cement. Then we cemented the bottom and sides with $\frac{1}{8}$ in. of *Ciment Fondu*, mixed with coarse sand, 4 to 1. We left it for two days, then filled the pond to the brim. After a week, not a single drop of water was missing, thereby proving that *Ciment Fondu* is absolutely the best waterproofer there is."

RE-HEADING PILES

"The re-heading and driving was a great success. We started driving about 9.30 a.m. and continued until 50 blows gave no set, which was about 4.30 p.m. This, as you know, with a 2-ton hammer. The head of the pile was not marked in any way, and from the driving results the joint must have been as good."

PAINTING CONCRETE

"We had to render a portion of the inside wall of the Butchery Dept. in a large provision stores, in the afternoon of their early closing day. Apart from the fact of the great saving of time over ordinary cement, we were able to paint same the following day. When I saw the Surveyor, he stated he wanted the wall rendered and painted three coats, and asked what we advised. We advised the use of *Ciment Fondu*. The Surveyor was very pleased with the result, and I expect this will mean he will order *Ciment Fondu* to be used in similar circumstances in all branches of their Stores."

CONCRETING DURING FROST

"The concrete foundations in Church Street were laid during a period of frost, and the tramcars were run over the track within 12 hours of the foundations being laid. It has recently been necessary to break up the foundations for alterations to the rails, and compressed air drills were used for breaking up the concrete. Great difficulty was experienced in breaking out the first hole, the concrete being the hardest to break out that had been experienced for some time."

CORE STOVE DOORS

"We have to inform you that the Core Stove Doors for our Perlit Furnace, which were made some years ago with your *Ciment Fondu* and broken firebrick, have been entirely successful and have given us no trouble since the furnace was made."

CIMENT FONDU
BRITISH MADE

Testimony from many

PRESERVING WOODWORK

"I used *Ciment Fondu* on the footings and round all the windows and doors where the cement came in contact with wood framing, to save calcareous attack."

FOUNDATIONS IN GAS LIME

"We used *Ciment Fondu* for the raft and pile foundations of a new Retort House, also for the pile foundations of a coke-breaking and screening plant and storage hopper. The site consists of an old timber dock, which had been used many years ago as a tip, and had largely been filled with lime, which had been used for extraction of sulphuretted hydrogen from gas. This spent lime contains calcium sulphide, calcium hydrosulphide and calcium thiocarbonate, and I, therefore, specified *Ciment Fondu* in order to resist the chemical action of this lime."

GARAGE FLOORS

"My own personal experience with the garage floor laid in my own garage is that it is quite safe to run a car over within 8 to 10 hours after laying."

FIXING STEEL CANTILEVER BRACKETS

"Our Foreman writes to tell us he uses *Ciment Fondu* for fixing steel cantilever brackets, owing to its quickness and hardness in setting. I see in one instance, after the brackets had been built in 18 hours, they were loading cylinders on these brackets weighing 250 lbs., although the brackets were projecting 1 ft. 6 in. from the wall."

ECONOMY IN TIMBERING

"By using *Ciment Fondu* we could strike the cylinder shuttering the next tide, and so only one set had to be provided."

CONCRETE EXPOSED TO ACID WATERS

"Generally speaking, *Ciment Fondu* has been used at Battersea Power Station where acid resistance is required. It was used for the construction of the Filter Beds, for covering beams exposed to acid waters, and in the concrete lining to the ash sumps, besides some other minor works."

FERRO-CONCRETE PILES

"The use of your cement was of the greatest advantage to us. During the excavation on the side of one of the buildings which carried considerable loads, a large belt of soft clay was discovered, extending to over 40 ft. deep in many places. The ordinary method of foundation work would, in the circumstances, have been very costly and slow. If reinforced concrete piled foundations were made using the ordinary cement, it would have delayed the erection of the building several months. By using your cement, we were able to start driving the piles in a few days after casting, and the piles driven to their permanent set were entirely satisfactory in all cases."

CIMENT FONDU
BRITISH MADE

users of Ciment Fondu

TAR OILS

"We have found that a mortar made with *Ciment Fondu* and sand does not lose strength in contact with tar oils, whereas a Portland cement mixture becomes quite brittle."

PRECAST BRIDGE MEMBERS

"In some bridge work we are carrying out for the Barnsley Corporation, the decking is made of precast hollow concrete tubes. In this case, owing to lack of space and the fact that it was essential to have traffic over at the earliest possible moment, we used *Ciment Fondu* in the construction of these tubes. In this case also the tubes were cast one day and hoisted into position the next. These precast members varied in weight from 5½ to 7 tons, and about 35 ft. in length."

MOORLAND WATERS

"The test slabs at Kinlochleven have shown excellent results after 12½ years' submersion in Moorland waters."

PROTECTION OF STEELWORK

"An interesting example of construction which we had was at the Manchester United Football Ground, the crush barriers on the popular side being a steel tube supported on built-up angle-iron standards, and it was found that these standards were eaten away by the ashes forming the steps. They were repaired during the winter months by reinforced concrete, using *Ciment Fondu*, without interfering with any of the fixtures. We were thus enabled to carry on with concreting until late on the Friday afternoon, strip them, and have them in commission for the crowd on the Saturday afternoon."

REFRACTORY USE

"We experimented with *Ciment Fondu* as a bond for grog used in the manufacture of refractory materials. Satisfactory results were attained, and the material is now being used in production."

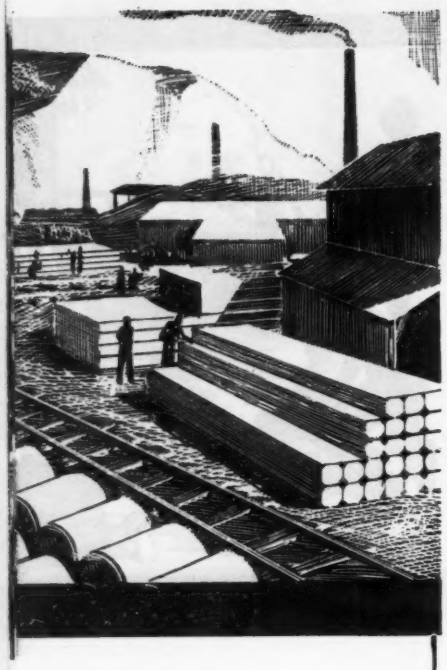
PRECAST SILLS

"We had a great many precast lintels to make, 11 in. by 4½ in. section, and lintels of all sizes, on work we are carrying out for the War Department on Salisbury Plain. The following is the method which we adopted and which we principally worked upon :—

Five parts ⅜ in. granite chips, in one batch, two parts washed sand and one part *Ciment Fondu*. This was placed into the mould of the Liner Concrete Machine in a semi-dry condition—making it as wet as we dare, so that the aggregate would

CIMENT FONDU
BRITISH MADE

Testimony from many



PRECAST SILLS—*continued.*

not move about in a liquid state when lifting the mould from the machine. The sill was then carried on its pallet to the stacking ground, stacked perfectly level, watered through hose with fine rose six hours after making, and at intervals of two hours afterwards. They were then removed from the pallets and the sills hoisted and fixed into position within 48 hours of making. The sills were most satisfactory, as they showed no signs of fracture, and came out with perfectly clean stoolings and arisses, very much different to the sills made with ordinary Portland cement."

CONCRETE LINTELS

"I may say personally I have seen lintels made at 4 o'clock in the afternoon, during the very hard frost of last winter, and turned out of moulds at 10 o'clock the following day, more like blocks of cast-iron than concrete lintels."

WATERPROOFING CELLAR WALLS and FLOOR

"After the construction of the cellar at the Farnborough Ex-Service Men's Club (Kent), it was found that water percolated through the walls and floor, owing to the waterlogged condition of the surrounding subsoil, to such an extent that about 15 in. depth of water accumulated therein in 24 hours, despite the fact that the walls were of 14-in. brickwork in cement mortar, with an external vertical double-slate and cement damp-proof course. The water in the sub-soil stood at about 3 ft. above the cellar floor level. This inflow of water has been entirely remedied by rendering the walls with your *Ciment Fondu*, consisting of two-coat work to a total thickness of 1 in. on the internal face of the walls and 1¼ in. over the floor. This work was carried out about two years ago, since when no troubles have been experienced, and the cellar remains perfectly dry."

TIDAL WORK

"We have used your cement in the construction of concrete walls in tide work, where it has been necessary to obtain quick hardening. We may say that it has proved very satisfactory, and unless heavy seas have followed soon after placing the concrete, no damage has taken place to the works."

UNDERPINNING PARTY WALL

"We have used your *Ciment Fondu* at one of our large contracts in London, where the party wall had to be underpinned at a depth of 33 ft. below the pavement level and where there was constant water. On top of the concrete in the underpinnings, steel stanchions had to be placed to pin up the work above, and we found it possible to fix in position the stanchions on the new concrete made with *Ciment Fondu* in eight hours, and to allow them to take the weight of a load of about 280 tons in 24 hours."

CIMENT FONDU
BRITISH MADE

users of Ciment Fondu

COVER OVER A SUBWAY

"The *Ciment Fondu* we recently purchased from you was used, in the first instance, to cover a subway which ran under the main road to our works. It became imperative that this should be available for traffic within 24 hours after covering over, and this was completed and used without any signs of trouble."

TRAMWAY RECONSTRUCTION IN MAIN ROADS

"In connection with paving work and tramway reconstruction work in main roads, *Ciment Fondu* has been used in this town at important street crossings, in order to shorten the period during which the carriageways at these points have to be disturbed, and that the passage of traffic should be affected as little as possible."

CORBEL OUT FOR A CHIMNEY

"On two occasions recently we had to corbel out for a chimney some distance up, and again by using *Ciment Fondu* we have been able to carry on with the brickwork above the next morning. Now we always keep a few bags in stock."

WEEK-END FACTORY REPAIRS

"We have used your *Ciment Fondu* extensively for urgent work which has to be carried out during the week-ends in our factory shops, where the concrete and other work cannot be placed until late on Saturday or some time on Sunday, and yet has to be sufficiently hard on the Monday morning to allow manufacturing operations to proceed. The work includes such items as beds for motors, grano flooring, small machine beds, and grouting for all purposes and other items of this nature."

UNDERGROUND BORINGS

"We used your *Ciment Fondu* in one of our underground borings some little time ago. We have nothing but praise for your product, it answered the purpose admirably—set very quickly. If we had used ordinary Portland cement, we should have had to wait a much longer time for it to become set. Your *Ciment Fondu* hardened very quickly, and we were able to undertake the re-boring which we required to do the following morning."

GENERAL REPAIRS IN QUARRIES

"I may say I have found *Ciment Fondu* of great service in the general repair work which is taking place continually in quarry works and machinery, and its use has enabled me to start machinery almost immediately after getting the foundations in. To quote you a case in point: I had occasion to move a compressor and install it nearer the quarry. We decided to do this about mid-day one day, and had it running in its new place on the afternoon of the following day, the concrete foundations having been put in overnight."

CIMENT FONDU
BRITISH MADE

A LIST OF SOM F
ON WHICH CIMEN ON

BRIDGES, DOCKS, LOCKS, ETC.

North Thoresby Bridge.
Ringland Bridge, Norfolk.
Mepal Bridge.
Langford Bridge.
Fingrinhoe Bridge, Colchester.
Guyhirn Bridge.
Kirkcudbright Bridge.
Oswald Street Bridge, Glasgow.
Wiggenhall Bridge, Watford.
Sproughton Bridge, Ipswich.
River Aire Bridge, Conanley.
Lenwade Bridge, Norfolk.
Cobden Bridge, Southampton.
East Bridge Widening, Bridport.
Dimmock Cote Bridge, Cambridge.
Carsphairn Bridges, Kirkcudbrightshire.
Martlesham Bridge, Suffolk.
King George Fifth Bridge, Glasgow.
Walton-on-Thames Bridge.
Tower Bridge, London.
Swan Bridge, Pulborough.
Coombe Bridge, Raynes Park.
Hammersmith Bridge, London.
Port Talbot Docks.
Lonsdale Dock, Workington.
Royal Albert Docks.
West India Docks.
Alexandra Dock, King's Lynn.
Clyde Navigation Dock, Elderslie.
Train Ferry Dock, Dover.
Olney Lock, Oxford.
Weedon Wharf.
Marlow Lock, Marlow.

RESERVOIRS, SEWAGE WORKS, PUBLIC WORKS

West Kent Sewerage Works, Dartford
Southern Outfall Works, Abbey Wood.
Birmingham Tame and Rea Drainage Works, Nechells, Birmingham.
Wolverton Sewerage Works.
Spalding Sewerage Works.
South Holland Drainage Co., Lincolnshire.
Deeping Fen Drainage Trustees' Works.
Coat's Thread Mills Reservoir, Barrhead.
Llandudno Sea Outfall, Deganwy.
Benfleet Sewerage.
Eastern Sewage Outfall, Great Warley.
Maidstone Water Main Contract.
Heaton Grange Reservoir.
West Middlesex Sewerage Scheme.
Glasgow Corporation Refuse Destructor, Govan.
Lee Valley Viaduct.
Sheffield Abattoirs.
New Tobacco Warehouse, Royal Victoria Docks.
Folkestone Band Pavilion.
Weston-super-Mare Sea Wall.
Mount Wise Swimming Baths, Plymouth.
St. Andrew's Brine Baths, Droitwich.
Free Trade Wharf.
Cardiff Fire Station.
Reigate Drainage Contract—No. 4.

PIERS AND JETTIES, ETC.

Herne Bay Pier.
Boscombe Pier.
Southend Loading Jetty.
Tilbury Landing Stage.
British Aluminium Co.'s Pier, Kinlochleven.
No. 13 Coal Hoist Jetty, Newport.
Folkestone Harbour Groynes.

POWER STATIONS, GAS WORKS, ETC.

Battersea Power Station.
North Wilford Power Station.
Borough Generating Station, Woolwich.
Yorkshire Power Station, Ferrybridge, Yorks.
Agecroft Power Station, Clifton.
South Wales Power Station, Treforest.
London Power Co.'s Station, Deptford.
Portobello New Electric Power Station.
Fulham Power Station
Hams Hall Power Station, Birmingham.
Princes Power Station, Birmingham.
Willesden Power Station.
Maidstone Gas Works, Maidstone.
South Metropolitan Gas Works, East Greenwich.
South Metropolitan Gas Works, Rotherhithe.
Aylestone Gas Works, Leicester.
Woking District Gas Works.
Gas Light and Coke Co.'s Gasholder, Staines, Middlesex.
Beckton Gas Works.
Haywards Heath Gas Works.

RAILWAY STATIONS, AERODROMES AND MILITARY QUARTERS

Bank Station, London.
Central Station, Glasgow.
Southern Railway, New Cross Shed, Selhurst.
Midland & Great Northern Joint Railway, Lynn.
Southern Railway (Strood Viaduct).
Southern Railway, Sea Wall and Shed, Dover.
Bricklayers Arms Station, London.
R.A.F. Aerodrome, Andover.
R.A.F. Old Sarum Aerodrome, Salisbury.
New Officers' Quarters, Tidworth.
New Married Quarters, Larkhill, Salisbury Plain.

FACTORIES AND BREWERIES

Siemens Works, Stafford.
Shell-Mex Works, Shell Haven, Essex.
Wall's Factory, Acton.
Carreras Factory, Mornington Crescent, London.
British Celanese Works, Spondon, Derby.
British Jeffery Diamond Works, Stannard, Wakefield.
Baildon Combing Co.'s Works, Shipley.
Suffolk Chemical Works, Ipswich.
Courtauld's Factory.
Anglo-American Oil Co.'s Works, Purfleet.
Jurgens Margarine Works, West Thurrock.
Indestructible Paint Co.'s Works, Park Royal.
Royal Gunpowder Factory, Waltham Abbey.
Dunlop Rubber Co.'s Works, Castle Bromwich.
Callender's Cable & Construction Co. Works, Belvedere.
Sketchley Dye Works, Hinckley.
Gramophone Co.'s Works, Hayes, Middlesex.
Kodak Co.'s Works, Wealdstone, Middlesex.
Synthetic Ammonia and Nitrate Works, Billingham-on-Tees.
Thames Board Mills, Purfleet.
H.M. Filling Factory, Rotherwas, Herefordshire.
Petter's Oil Engine Factory, Yeovil.
Michelin Tyre Co.'s Factory, Stoke-on-Trent.
Goodyear Tyre Co.'s Factory, Bushbury, Wolverhampton.
Austin Motor Co.'s Works, Longbridge, Birmingham.

CIMENT FONDU
BRITISH MADE

F THE WORKS
ONDU HAS BEEN USED

★

Anne's Board Mills, Bristol.
stol Co-operative Society's Bake-ouse and Dairy, Bristol.
oen Co.'s Factory, Slough.
yons & Co.'s Laboratory, Hammer-mith, W.
nks & Co.'s Furnaces, Barrhead, Glasgow.
tty Joel Factory, Kingston By-Pass, Surrey.
w Explosive Laboratory, Woolwich Arsenal.
mshall Tanneries.
opshire Beet Sugar Factory.
gg Sugar Factory, Lincs.
ddington's Brewery, Manchester.
nn, Crossman & Paulin, White-chapel Road, E.
sell's Brewery, Birmingham.
bby's Brewery, Staines, Middlesex.
owle Spring Brewery, Keighley, Yorks.

FFICES, STORES AND USINESS PREMISES

fuge Assurance Co., Ltd., Baldwin Street, Bristol.
gle Star and British Dominions Co., Ltd., Threadneedle Street, E.C.
ottish Legal Buildings, Bothwell Street, Glasgow.
van & Edgar's, Piccadilly.
ourne & Hollingsworth, Oxford Street.
eekly Dispatch Building.
hn Barker & Co., Kensington High Street, W.
rland's Building, 16, Regent Street, W.
wis's Building, Manchester.
lhams Press, Long Acre, W.C.
estminster Bank, Cheapside.
oyds Bank, Cornhill.
nk of Scotland, Glasgow.

OTELS, THEATRES, LUBS, ETC.

Lyons & Co., Oxford Street Corner House.
re Drop Hotel, Ferndown.
gal Cinema, Marble Arch.
d Kent Cinema, Old Kent Road, S.E.
d Vic Theatre, Waterloo Road, S.E.
w Empire Theatre, Southampton.
estover Cinema, Bournemouth.
oyal Scottish Automobile Club, Glas-gow.
roud General Hospital, Stroud, Glos.
ringfield Mental Hospital.
rth Middlesex Hospital, Edmonton.
y's Hospital, London.
verness Infirmary.

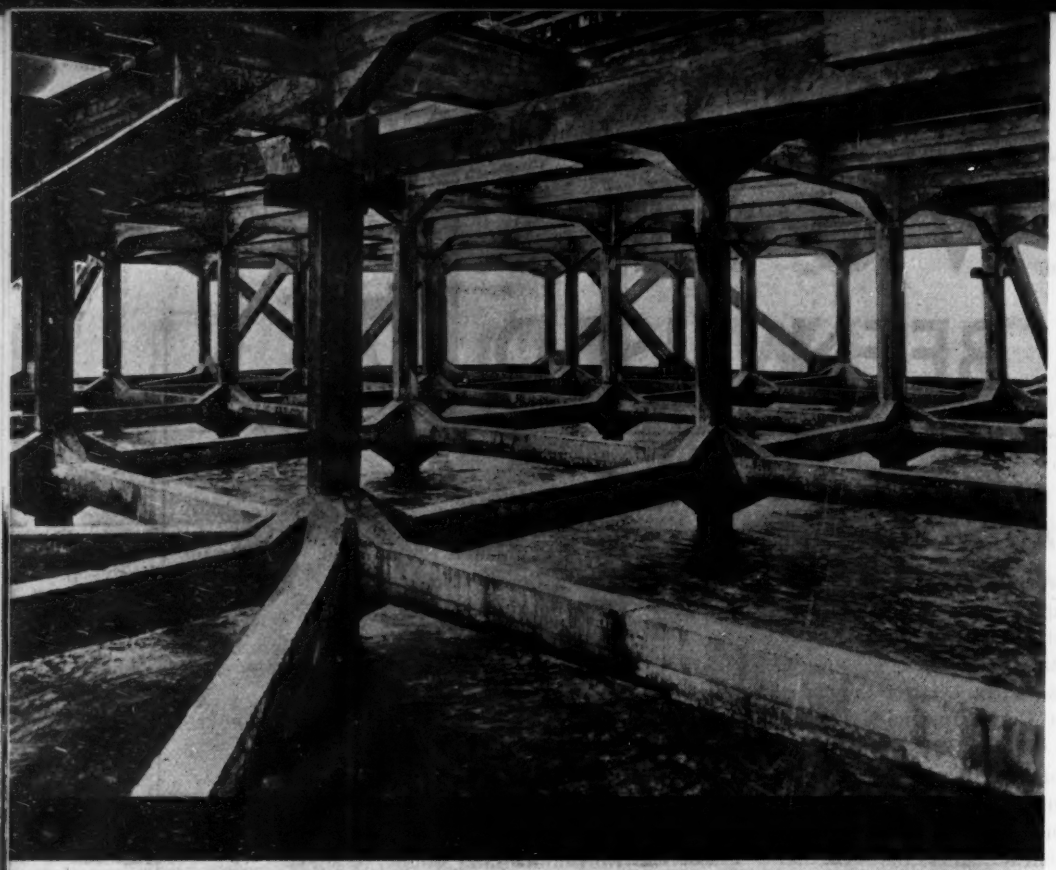
ROAD WORK for:—

Aberdeen County Council.
Accrington Municipal Corporation.
Ashton-under-Lyne Corporation.
Ayr Burgh Council.
Barnes Urban District Council.
Barnet Urban District Council.
Berks County Council.
Bermondsey Borough Council.
Birkenhead County Borough.
Birmingham County Borough.
Blackburn County Borough.
Blackpool County Borough.
Bootle County Borough.
Bradford County Borough.
Bridgwater Municipal Corporation.
Bridport Town Council.
Bristol County Borough.
Burnley Corporation.
Burton-on-Trent County Borough.
Bury St. Edmunds Municipal Corpn.
Cambridge Municipal Corporation.
Carlow County Council.
Chertsey Urban District Council.
Cheshire County Council.
Chester County Borough.
Colchester Municipal Corporation.
Croydon County Borough.
Darlington County Borough.
Devon County Council.
Dewsbury County Borough.
Dumbarton County Council.
Dundee Burgh Council.
Durham Municipal Corporation.
East Riding of Yorkshire C.C.
Edinburgh City Council.
Essex County Council.
Exeter County Borough.
Falkirk Burgh Council.
Farnborough Urban District Council.
Fleetwood Urban District Council.
Folkestone Corporation.
Glasgow City Council.
Grantham Municipal Corporation.
Great Yarmouth Borough Council.
Grimsby Rural District Council.
Guildford Municipal Corporation.
Hackney Borough Council.
Halifax County Borough.
Hamilton Burgh Council.
Hastings County Borough.
Holborn Metropolitan Borough.
Hove Municipal Corporation.
Ipswich County Borough.
Isle of Man Highway Board.
Keighley Municipal Corporation.
Kenilworth Urban District Council.
Kilsyth Burgh Council.
Lanarkshire County Council.
Lambeth Borough Council.
Lancashire County Council.
Largs Burgh Council.
Leeds County Borough.
Lewisham Borough Council.
Leyton Municipal Corporation.
Lincoln County Borough.
Liverpool County Borough.
London County Council.
Loughborough Municipal Corporation.
Mitcham Urban District Council.
Margate Borough Council.
Middlesbrough County Borough.
Midlothian County Council.
Norfolk County Council.
Newcastle County Borough.
Northumberland County Council.
Paisley Burgh Council.
Perth Burgh Council.
Poole Municipal Corporation.
Portsmouth County Borough.
Preston County Borough.
Reading County Borough.
Redcar Municipal Corporation.
Reigate Borough Council.
Richmond Municipal Corporation.
Rochdale County Borough.
Rothesay Burgh Council.
Surrey County Council.
Salford County Borough.
Scarborough Corporation.
Sheffield Corporation.
Somerset County Council.
Southampton County Borough.
Southport County Borough.
South Shields County Borough.
Stafford Municipal Corporation.
Staffordshire County Council.
Stockton-on-Tees Municipal Corpn.
Stoke-on-Trent County Borough.
Sunderland County Borough.
Swindon Municipal Corporation.
Taunton Municipal Corporation.
Wallasey County Borough.
Wallsend Municipal Corporation.
Wandsworth Borough Council.
Warrington County Borough.
Wednesday Municipal Corporation.
Westminster County Council.
West Bromwich County Borough.
West Ham County Borough.
West Hartlepool County Borough.
Whitstable Urban District Council.
Yeovil Municipal Corporation.
York County Borough.

Etc., etc.

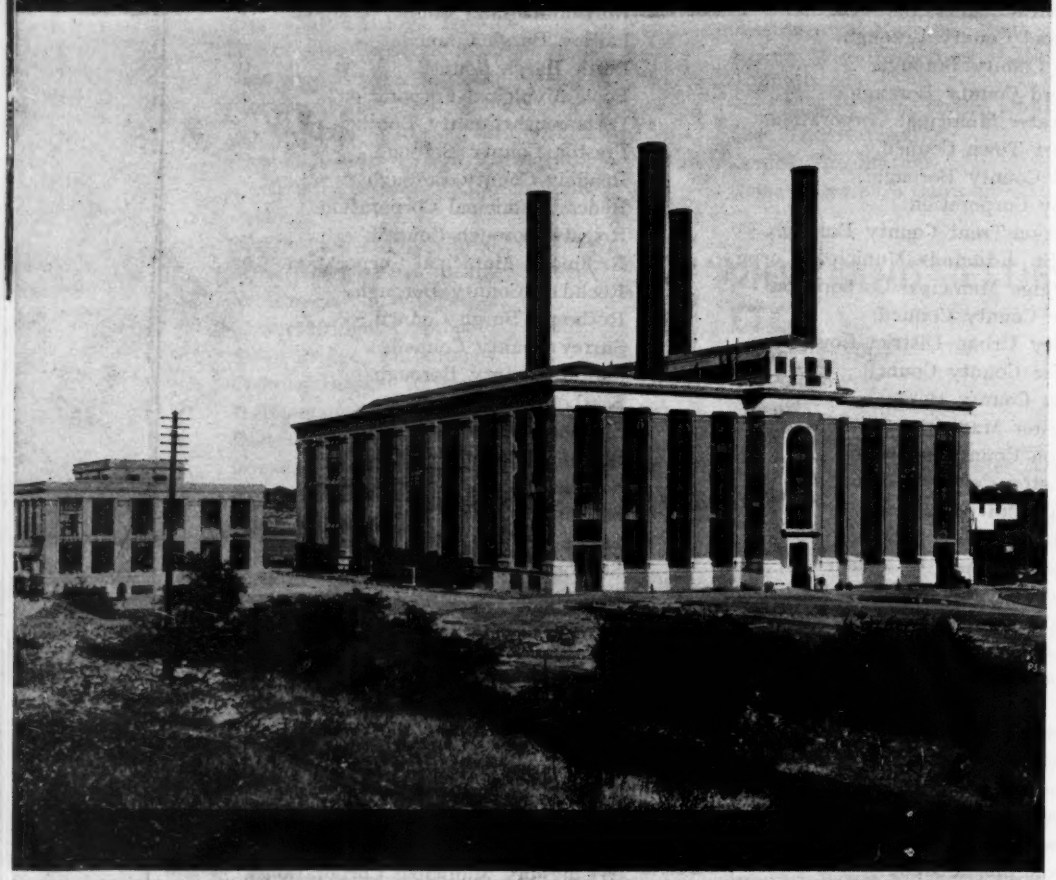
CATHEDRALS, CHURCHES, HOSPITALS, SCHOOLS, COLLEGES, ETC., ETC.

CIMENT FONDU
BRITISH MADE



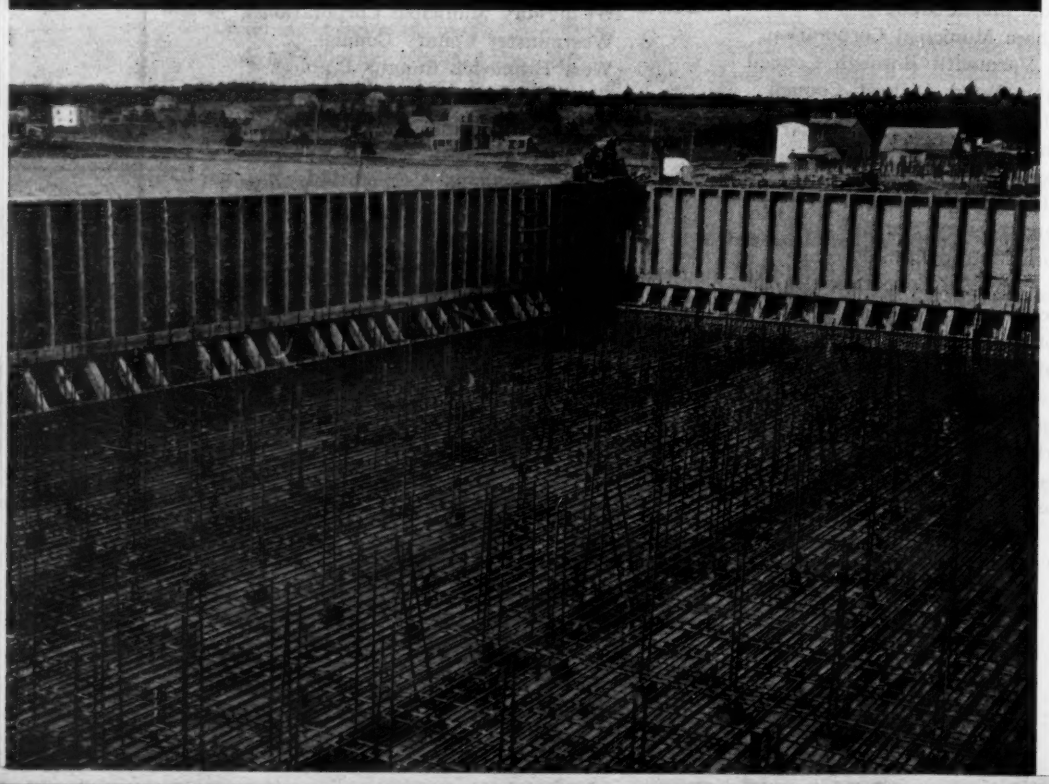
BOSCOMBE PIER, BOURNEMOUTH.

Ciment Fondu was used exclusively for the construction shown.
Boro' Engineer and Surveyor : F. P. Dolamore, Esq., F.S.I., F.R.San.I.
Contractors : Messrs. Frank Bevis Ltd., Portsmouth.



FERRYBRIDGE POWER STATION, YORKS.

Ciment Fondu was used for the ferro-concrete Piles for this important Power Station. The driving was exceptionally heavy.
Contractors : The Foundation Co. Ltd.



PIER "B," OCEAN TERMINALS, HALIFAX, NOVA SCOTIA, CANADA.

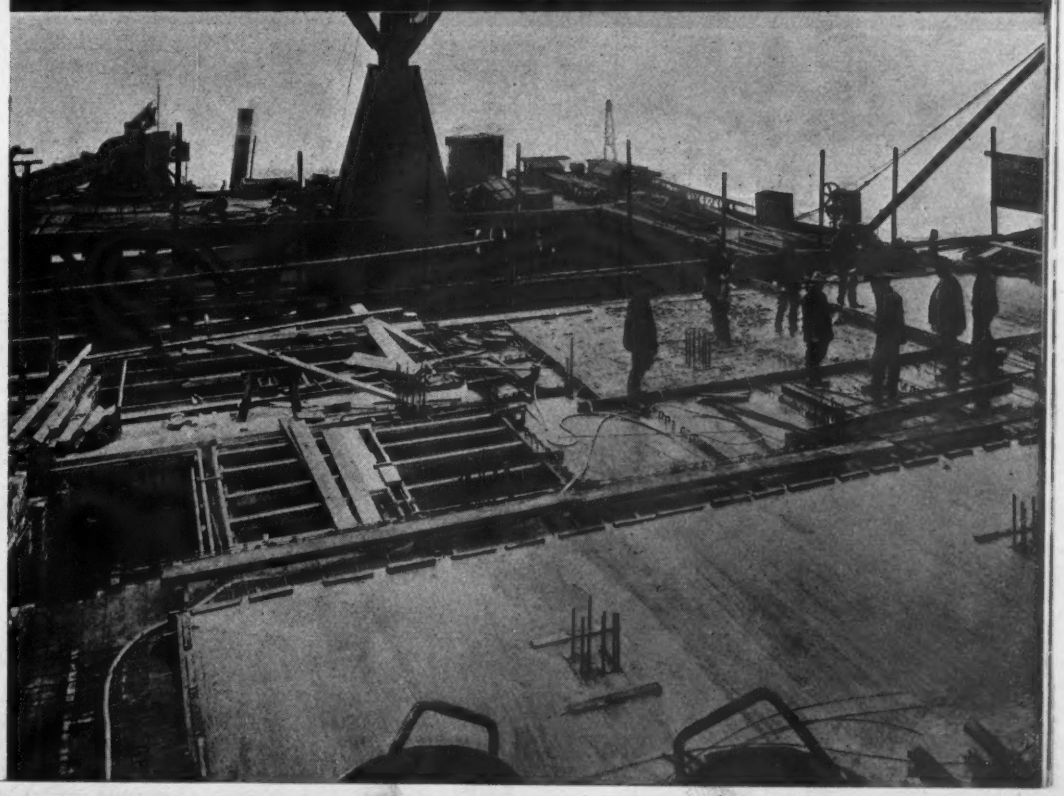
One of the 36 concrete cribs showing the reinforcement for the floor. Ciment Fondu was used exclusively in the construction of this Pier, some 18,000 tons being supplied.
Chief Engineer : A. G. Tapley, Esq.
Contractors : Messrs. Kilmer, Gibson and Van Nostrand, Ltd., Toronto.

BATTERSEA POWER STATION.

Ciment Fondu was used in lining of flues, covering beams, and wherever resistance to acid-laden gases required.
Engineers :
S. L. Pearce, Esq., London Power Co.
Messrs. C. S. Allott and Sons, Manchester.
Contractors : Messrs. John Mowlem & Co., Ltd.

LOCHABER HYDRO-ELECTRIC SCHEME.

A view of the interior of the 15-mile tunnel through Ben Nevis. The equivalent diameter of the tunnel is 15 feet and the invert was constructed with Ciment Fondu.
Consulting Engineers :
Messrs. Meik and Halcrow.
Contractors :
Messrs. Balfour, Beatty and Co., Ltd.

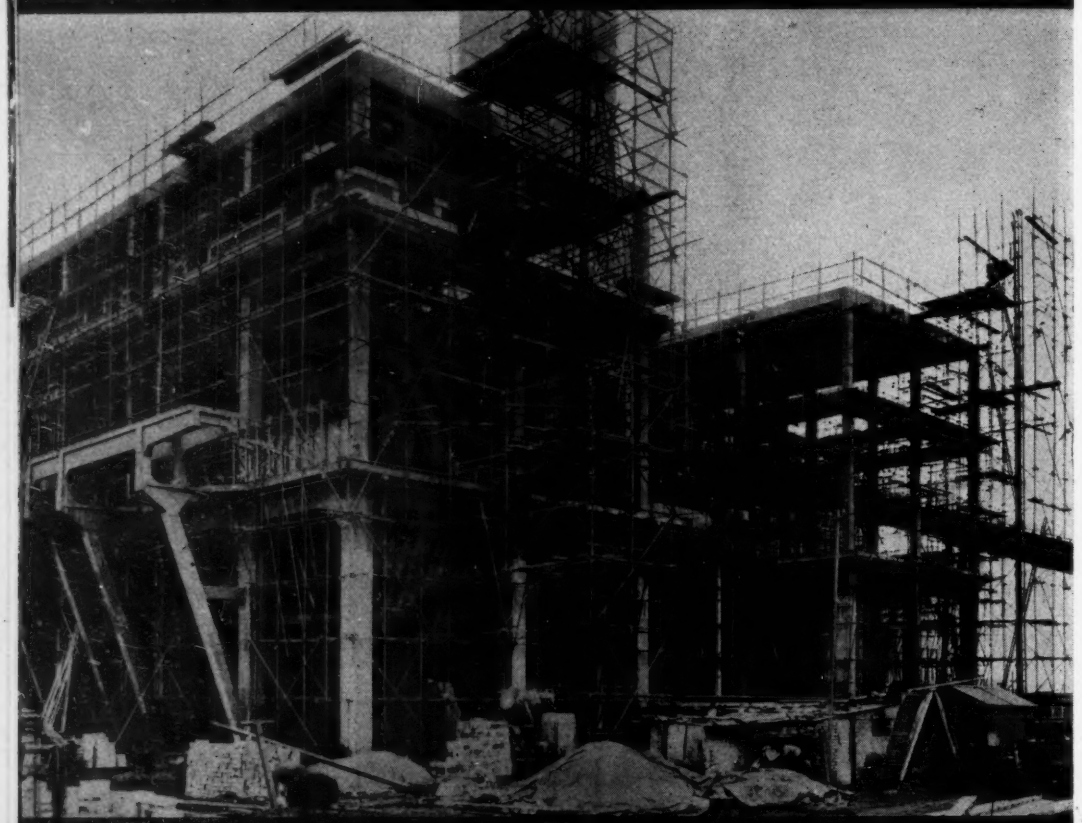


FREE TRADE WHARF, LONDON.

Ciment Fondu was used for ferro-concrete piles, weighing over four tons each. Several were canted over within 48 hours of casting and driven, during very frosty weather, without fracture.
Architect : Chas. Dunch, Esq., M.S.A.
Contractors : Messrs. Brims and Co., Ltd.

CROMER PIER.

Ciment Fondu was used between tides as foundation covering hollow steel columns. For Cromer Protection Commissioners.
Contractors : Messrs. May, Gurney & Co., Ltd., Norwich.

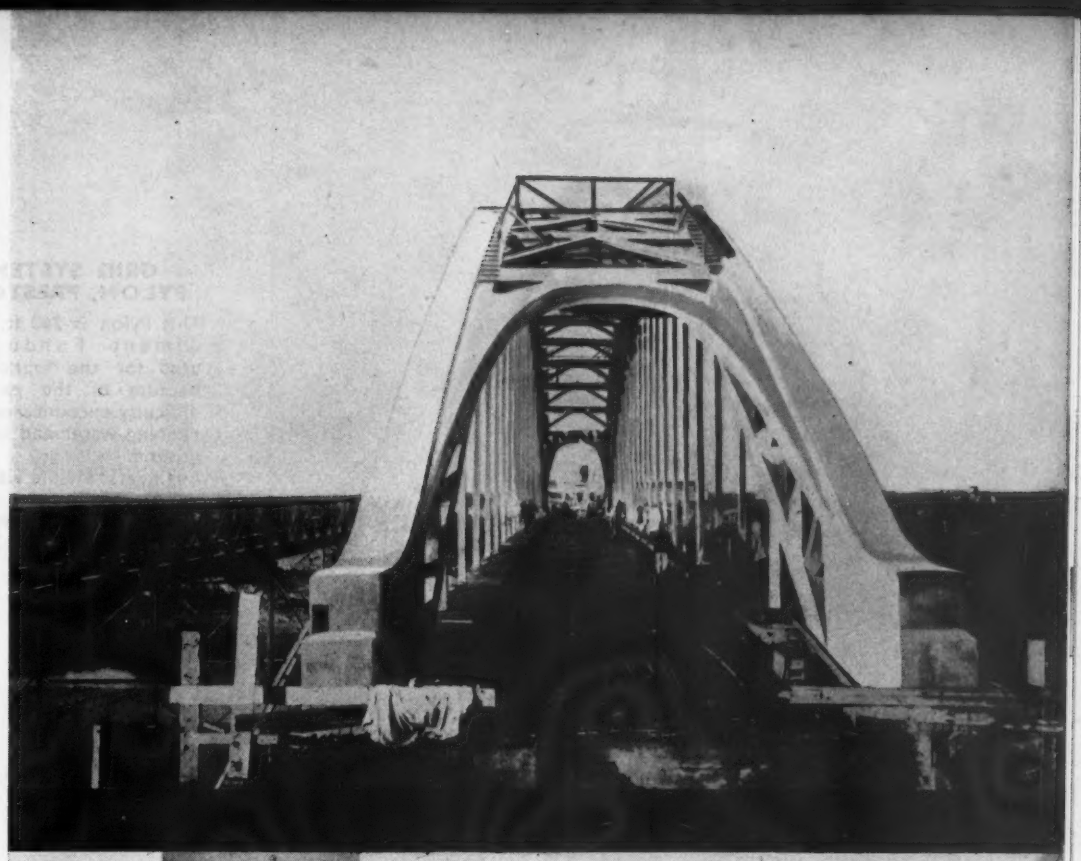


HAMS HALL POWER STATION.

Ciment Fondu was used for Hoppers and superstructure where resistance to acid-laden gases was required.
Engineers : Messrs. L. G. Mouchel and Partners.
Contractors : Messrs. Thomas Lowe & Sons, Ltd., Burton-on-Trent.

SHEFFIELD ABATTOIR & MEAT MARKET.

Ciment Fondu was used in the construction of the granolithic floors.
Architects : Messrs. Hal Williams and Co.
Contractors for Floors : Messrs. Stuarts Granolithic Co. Ltd.



BRIDGE OVER L'OUED MELLEGUE, TUNIS.

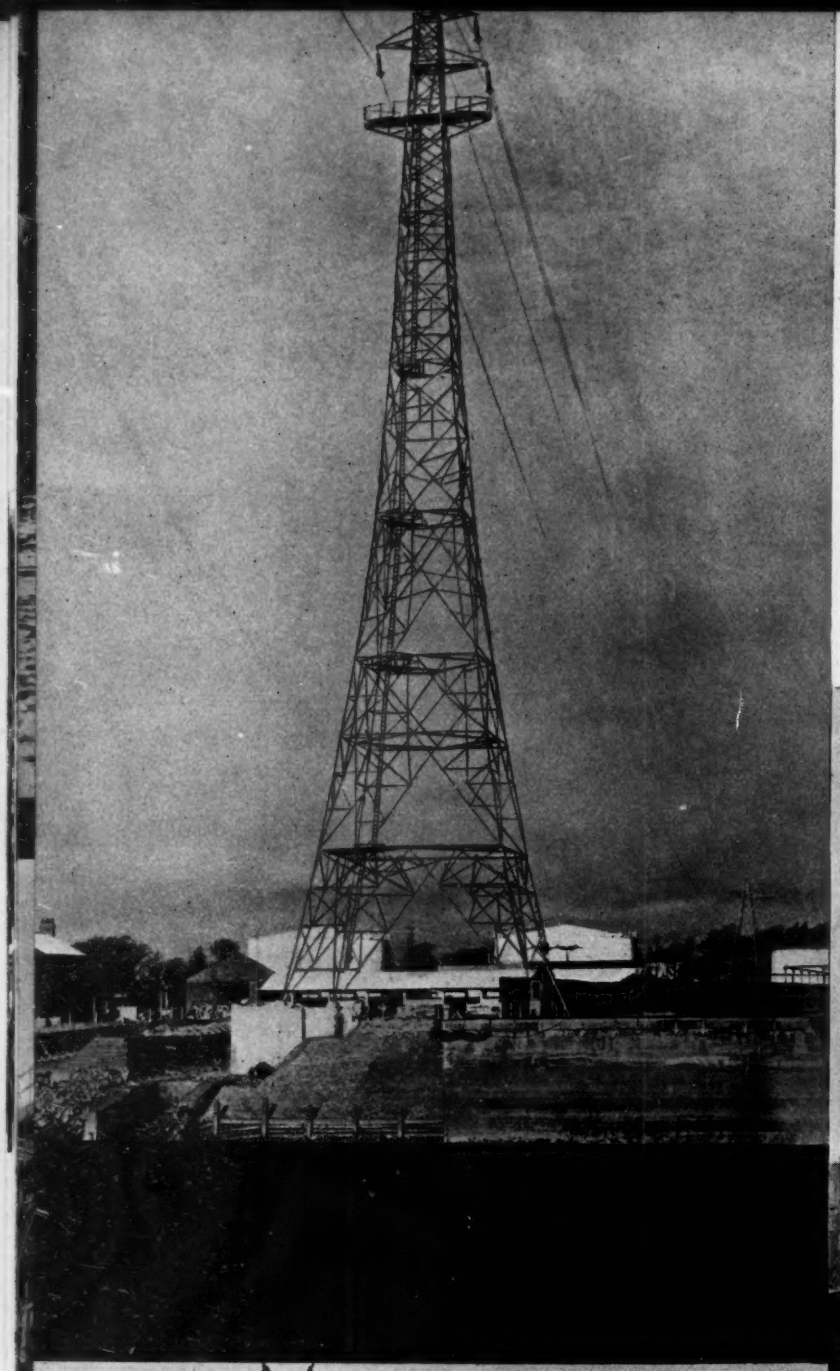
Constructed entirely in Ciment Fondu.
Engineers & Contractors : Etablissements Fourré et Rhodes (for Tunis Municipality).

PRINCES POWER STATION, NECHELLS, BIRMINGHAM.

The Columns shown are of Portland Cement and everything above them is of Ciment Fondu.
Engineers : Messrs. L. G. Mouchel and Partners.
Contractors : Messrs. Thos. Lowe & Sons, Ltd., Burton-on-Trent.

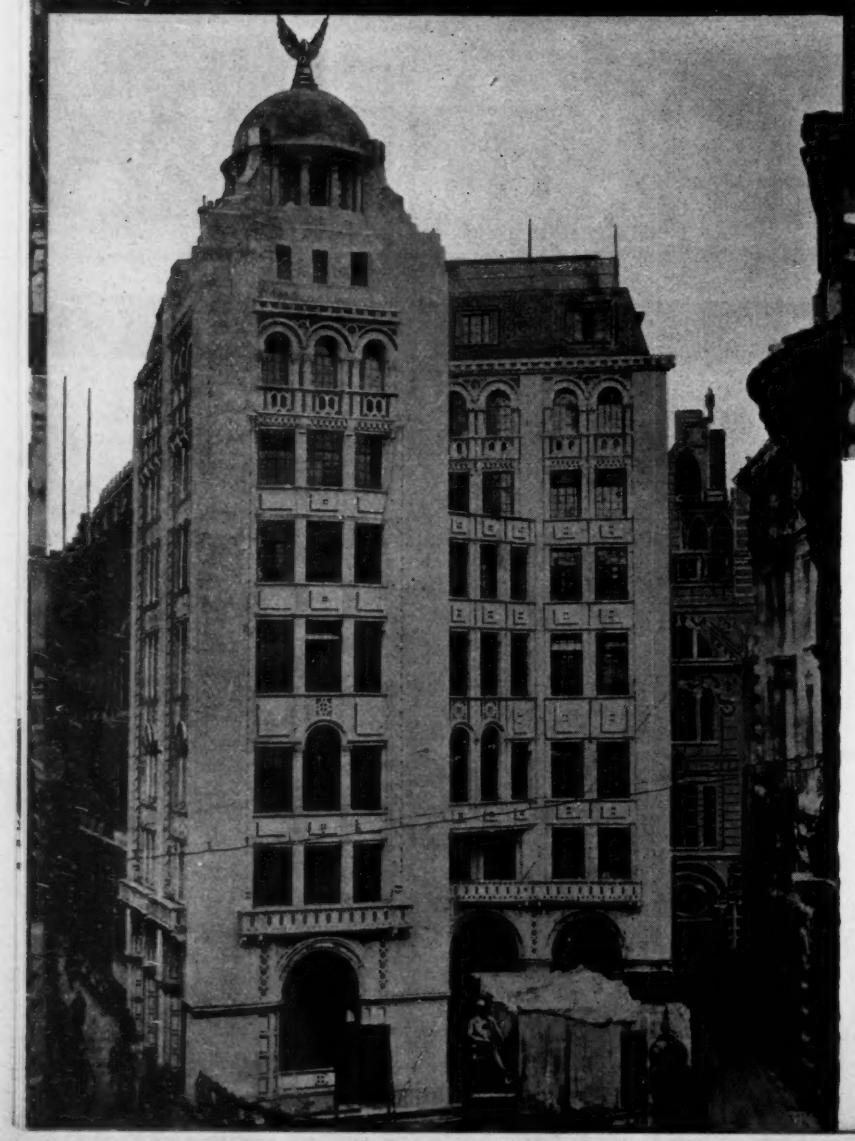
IMPERIAL CHEMICAL HOUSE, MILLBANK, LONDON.

Ciment Fondu was used for the concrete pile foundations of this important building, also for certain of the concrete floors constructed during frosty weather.
Architect : Sir Frank Baines, C.V.O., F.R.I.B.A.
Contractors : Messrs. John Mowlem and Co. Ltd.



GRID SYSTEM PYLON, PRESTON.

This Pylon is 240 ft. high. Ciment Fondu was used for the foundations because of the extreme difficulty encountered with running water and moving ground.
Engineers: Messrs. Kennedy and Donkin.
Contractors : Messrs. Enfield Cable Works Ltd.



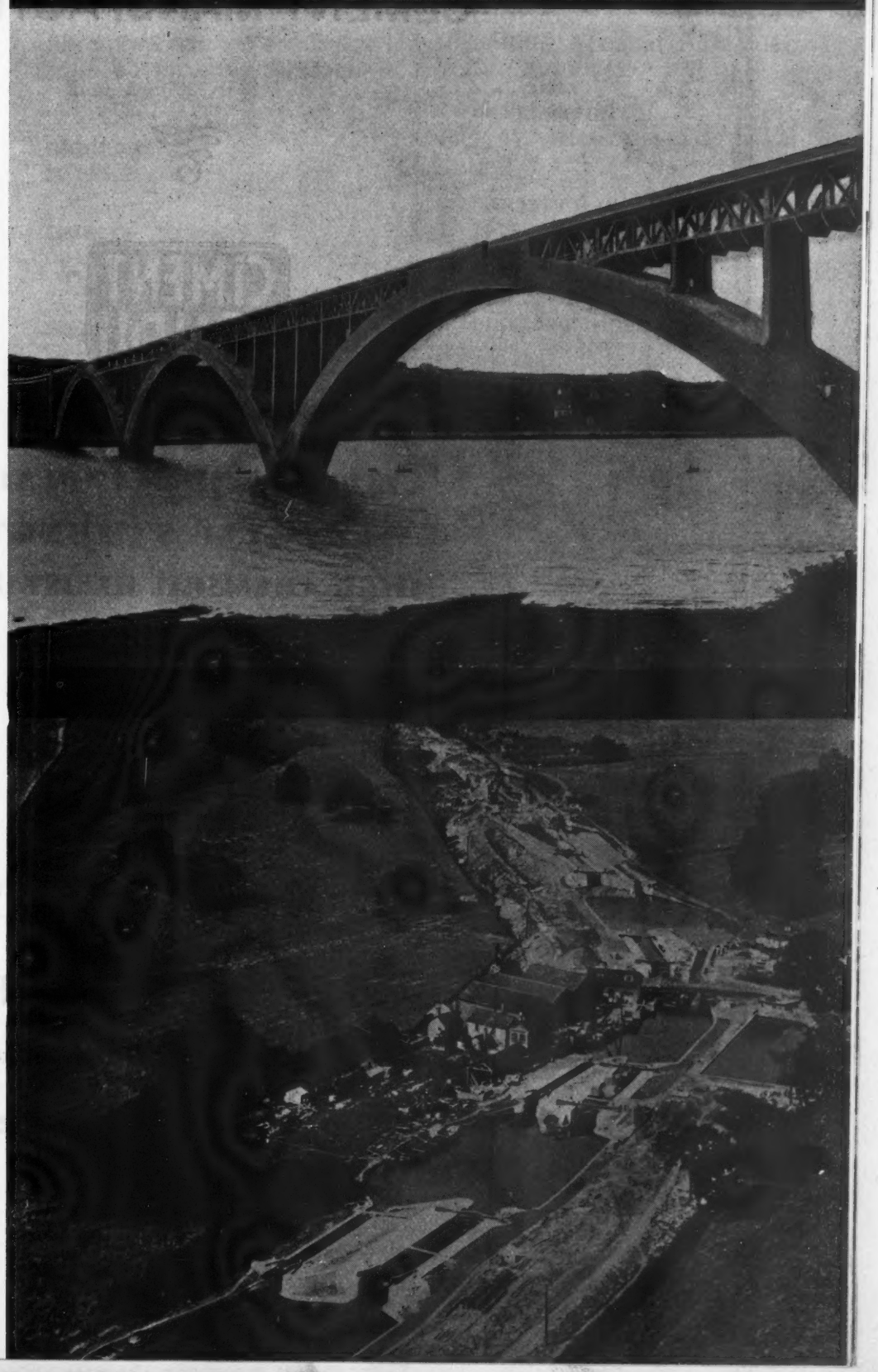
SWAN & EDGAR'S PICCADILLY CIRCUS, LONDON.

Ciment Fondu used for underpinning & stanchion foundations.
Architects : Messrs. Belcher and Joass.
Contractors : Messrs. Higgs and Hill Ltd.

HEAD OFFICE, EAGLE STAR AND BRITISH DOMINIONS INSURANCE CO., THREADNEEDLE STREET, LONDON.

MESSRS. CARRERAS' FACTORY, LONDON.

Ciment Fondu was used in the construction of the retaining wall surrounding this huge factory. It was specified, because it gives a particularly dense concrete through which water cannot percolate.
Architects : Messrs. M. E. and O.H. Collins, F.R.I.B.A.
Engineers : Messrs. Considere Constructions Ltd.
Contractors : Messrs. Sir Robert McAlpine and Sons, Ltd.



BRIDGE AT PLOUGASTEL, BREST, OVER RIVER ELORN.

Ciment Fondu was used for the foundations and piers on this important bridge, which is reputed to be the largest reinforced concrete bridge in the world.
Engineer : M. Freysinnet.
Contractors : Société, Anonyme des Entreprises Limousin, Paris.

GRAND UNION CANAL, HATTON, near BIRMINGHAM.

Ciment Fondu was used for the piling in the construction of the locks.
Engineers : Messrs. Sir Robert Elliott Cooper and Sons ; Messrs. L. G. Mouchel and Partners.
Contractors : Messrs. L. J. Speight Ltd.

PRE-EMINENT

IN THE SCIENCE OF CEMENT MANUFACTURE

CIMENT FONDU
BRITISH MADE

ULTRA RAPID HARDENING
MAXIMUM STRENGTH
HIGH CHEMICAL RESISTANCE

LAFARGE ALUMINOUS CEMENT CO., LTD.
LINCOLN HOUSE, 296-302, HIGH HOLBORN, LONDON, W.C.1.
TELEPHONE: HOLBORN 6431. TELEGRAMS: CIMENFONDU, HOLB., LONDON

© C-152

STOCKISTS OF CIMENT FONDU

ARMAGH (N. Ireland)
P. McKENNA & Sons.
H. HILLOCK & Co.

ASHTON-UNDER-LYNE
ELIAS WILD & Son, Ltd., Katherine Street.

AXMINSTER (Devon)
R. J. LUFF, Ltd., Station Yard.

BALLYMONEY (N. Ireland)
TAGGART & Co.

BARKING
JACKSON & Co. (BARKING), Ltd., 83, Axe Street.

BARNSTAPLE
RAWLE, GAMMON & BAKER, Rolle's Quay.

BATH
J. A. BLADWELL & Co., 1, Broad Quay.

BECKENHAM (Kent)
J. H. SANKEY & Son, Ltd., Southern Railway Goods Yard, Beckenham Junction.

BEDFORD
RANDALLS, Ltd., 20/22, St. Mary's Street.

BELFAST
JOHN McNEILL, Ltd., 109, Corporation Street.

BEXHILL-ON-SEA
HALL & Co., Ltd., Bridge House, Sea Road.

BEXLEY HEATH (Kent)
J. H. SANKEY & Son, Ltd., Southern Railway Goods Yard.

BIRKENHEAD
JAMES E. BEARD & Co., Ltd., The Haymarket, 1, Conway Street.

BIRMINGHAM
PARKER, WINDER & ACHURCH, Ltd., Broad Street.

BLACKHEATH (Staffs)
B. HOBBS & Co., Ltd.

BLACKBURN
JOHN CHEW & Co., Ltd., Lord Street West.

BLACKPOOL
J. & C. LOWES, Ltd., Firmit Buildings, Caunce Street.

BOGNOR
HALL & Co., Ltd., Builders' Merchants.

BOSCOMBE
KENNEDY'S (BOURNEMOUTH), Ltd., 118, Haviland Road.

BOURNEMOUTH
KENNEDY'S (BOURNEMOUTH), Ltd., 167, Holdenhurst Road.

BRADFORD
HODGSON & KAY, Tyson Street.

BRENTWOOD (Essex)
J. H. SANKEY & Son, Ltd.

BRIDGEWATER
JOHN BOARD & Co., Ltd., Bristol Road, Dunball.

BRIDPORT
RALLS & Sons.

BRISTOL
CHARLES CORNISH & Co., Ltd., Pipe Lane, Victoria Street.

BROMLEY (Kent)
DARBY Bros. (BROMLEY), Ltd., Bromley North Station.

BURTON-ON-TRENT
J. ROBINSON (BURTON-ON-TRENT), Ltd., Bond End Building Stores.

CAMBRIDGE
CYRIL RIDGEON & Son, Ltd., L.N.E.R. Wharf, Tenison Road.

CANTERBURY
COURT Bros. (CANTERBURY), Ltd., Castle Street.

CARDIFF
D. MORGAN & Sons, The Parade.

CARLISLE
WALTER WOOD & Co. (CARLISLE), Ltd., Victoria Chambers, The Viaduct.

CHEAM (Surrey).
HALL & Co., Ltd., Station Approach.

CHELTENHAM
SHARPE & FISHER (1924), Ltd., Pittville Street.

CLACTON-ON-SEA
STOOKE & SPARKS Rosemary Road.

COLCHESTER
THOS. MOY, Ltd.

COLERAINE (N. Ireland)
H. & T. BELLAS.

COOKSTOWN (N. Ireland)
R. J. STEWART.

COVENTRY
PARKER, WINDER & ACHURCH, Ltd., Gosford Street.

CREWE
MOORE & BROCK, Ltd., Cumberland Wharf.

CROYDON
HARRIS & BAILEY, Ltd., 105, Lower Addiscombe Road.

DARLINGTON
J. T. ATKINSON & Sons, Russell Street East.

DARTFORD (Kent)
J. H. SANKEY & Son, Ltd., West Hill.

DERBY
BUILDING SUPPLIES (DERBY), Ltd., St. Andrew's Wharf, London Road.

DEVONPORT
JAMES BROS. & Co., Ltd., Richmond Walk.

DEWSBURY (Yorks)
W. R. THOMPSON & Co., Ltd., 4, Railway Street.

DONCASTER
R. O. ARNOLD, Ltd., 41/45, Victoria Street.

DOUGLAS (I.O.M.)
CORLETT, SONS & COWLEY, Ltd., 19, North Quay.

DOVER
CASTLE CONCRETE Co., Castle Street.

DUBLIN
T. & C. MARTIN, Ltd., D'Olier House, 21/24, D'Olier Street.

DUNDEE
THOS. MUIR, SON & PATTON, Ltd., Nethergate House.

EASTCOTE (Middlesex)
ERITH & Co., Ltd., Metro Goods Depot.

EASTBOURNE
HALL & Co., Ltd., 3, Station Parade.

STOCKISTS OF CIMENT FONDU

ELSTREE (Herts)
ERITH & Co., Ltd., L.M.S. Goods Yard.

ENNISKILLEN (N. Ireland)
JOHN LEMON & Sons.

EPSOM (Surrey)
HALL & Co., Ltd., Mill Road.

ERITH (Kent)
J. H. SANKEY & Son, Ltd., Southern Railway Goods Yard.

EXETER
GEORGE HEYWOOD & Sons, Ltd., Queen Street Station Yard.

FARNHAM (Surrey)
SAYERS (BUILDERS' MERCHANTS), Ltd., Broomley Works.

FERRING (Sussex)
EDWARD BENTON & Co., Ltd., Brook Lane.

FRINTON-ON-SEA
BUILDERS' SUPPLIES (ESSEX), Ltd., Central Avenue, Frinton Park.

GERRARDS CROSS (Bucks)
WIGGINS-SANKEY, Ltd., Station Road.

GLASGOW
ROEMMELE WEBB & Co., 113 Douglas Street.

GLOUCESTER
WESTERN TRADING Co. (GLOUCESTER), Ltd., 116/120, Southgate Street.

GRAVESEND
STOOKE & SPARKS (GRAVESEND), Ltd., Queen Street.

GRAYS (Essex)
BEACON STONE Co., London Road.

GRIMSBY
J. R. MITCHELL & Co., Ltd., Haven Side.

GUILDFORD
R. C. JENNINGS & Co., Walnut Tree Close.

HALIFAX
GEO. GREENWOOD & Sons, 18, King Cross Street.

HARROW (Middlesex)
WIGGINS-SANKEY, Ltd., Met. & G.E. Railway Goods Depot.

HAYES (Kent)
J. H. SANKEY & Son, Ltd.

HAYES (Middlesex)
WIGGINS-SANKEY, Ltd., Blythe Road.

HIGH WYCOMBE (Bucks)
SPICER & Son, Ltd., Newlands.

HORSHAM (Sussex)
J. & S. AGATE, Ltd., Steam Sawing and Planing Mills.

HOVE (Sussex)
CLIFFORD EDWARDS, Ltd., Hove Station Wharf.

HULL
H. WILLIAMSON & Co., Ltd., North Bridge.

ILFORD
J. H. SANKEY & Son, Ltd., The Hill.

IPSWICH
WILLIAM BROWN & Co. (IPSWICH), Ltd., Greyfriars Road.

KEW BRIDGE (Middlesex)
HALL & Co., Ltd.

KINGSTON-ON-THAMES
J. W. SERGEANT, Ltd., 147, London Road.

LANGLEY (Bucks)
HENRY J. GREENHAM (1929), Ltd., G.W. Railway Depot.

LEATHERHEAD (Surrey)
HARRY THORNTON & Co., (LEATHERHEAD), Ltd., Station Approach.

LEDBURY
GEORGE HILL & Sons (LEDBURY), Ltd.

LEEK (Ches)
MOORE & BROCK, Ltd., Burton Street.

LEEDS
C. P. MURRAY & Co., Ltd., Neville Street.

LEIGH (Lancs)
J. W. WILDE, Platt Fold, Brown Street.

LEITH
ROEMMELE WEBB & Co., 14, Quality Street.

LEWES (Sussex)
JAMES CHANDLER (LEWES), Ltd., Friars Walk.

LISBURN (N. Ireland)
H. A. DORMAN & Co.

LIVERPOOL
JAMES E. BEARD & Co., Ltd., 10, South Castle Street.

LONDON

BOROUGH, S.E.1
WAKELEY BROS. & Co., Ltd., 74, Bankside.

BOW, E.3
ERITH & Co., Ltd., Midland Wharf, Bow.

BUSH HILL PARK, N.21
J. H. SANKEY & Son, Ltd., Queen Anne Place, Bush Hill Park.

CAMBERWELL GROVE, S.E.5
J. F. CHIVERALL & Co., Ltd., 87, Camberwell Grove.

CAMBRIDGE HEATH, E.2
ERITH & Co., Ltd., 1, Vyner Street, Cambridge Heath.

CAMDEN TOWN, N.W.1
JOHN KNOWLES & Co. (LONDON), Ltd., 38, King's Road.

CANNING TOWN, E.16
J. H. SANKEY & Son, Ltd., Essex Wharf.

CHISWICK, W.4
JOHN KNOWLES & Co. (LONDON), Ltd., L.M.S. Railway Station, High Road, Chiswick.

CLERKENWELL, E.C.2
W. J. WHITE & Co., Ltd., Goods Yard, Worship Street.

EAST DULWICH, S.E.22
HALL & Co., Ltd., 2a, Melbourne Grove.

FULHAM, S.W.6
WIGGINS-SANKEY, Ltd., Rosebank Wharf, Lysia Street.

HACKNEY, E.8
WIGGINS-SANKEY, Ltd., 297, Kingsland Road.

HENDON, N.W.4
J. H. SANKEY & Son, Ltd., L.M.S. Rly. Yard, Station Road.

HIGHAMS PARK, E.4
J. H. SANKEY & Son, Ltd., L.N.E. Rly. Goods Yard.

STOCKISTS OF CIMENT FONDU

HOLLOWAY, N.19
W. TADGELL, Ltd., 361, Hornsey Road.

KENSINGTON, W.14
WIGGINS-SANKEY, Ltd., L.M.S. Goods Depot, Warwick Road.

KENTISH TOWN, N.W.5
J. H. SANKEY & Son, Ltd., Franklin Street.

LAMBETH, S.E.1
EASTWOODS, Ltd., 47, Belvedere Road.

LEE, S.E.13
WM. ASHBY & Sons, Ltd., 215, High Road.

LEWISHAM, S.E.13
H. E. OLBY & Co., Ltd., 305, High Street.

LEYTON, E.10
C. BARRALET & Co., Ltd., L.N.E. Rly. Wharf, Lea Bridge Road.

LEYTONSTONE, E.11
ERITH & Co., Ltd., 526/528, High Road.

LIMEHOUSE, E.14
R. PASSMORE & Co., Ltd., Three Colt Street.

MUSWELL HILL, N.10
JOHN KNOWLES & Co. (LONDON), Ltd., L.N.E. Rly. Station.

NEW WANDSWORTH, S.W.11
HALL & Co., Ltd., Southern Rly. Goods Depot, Battersea Rise.

NORBURY, S.W.16
WM. ASHBY & Sons, Ltd., 13/28, London Road, Norbury.

NORTH WOOLWICH, E.16
J. H. SANKEY & Son, Ltd., Barge House Wharf.

OLD FORD, E.3
JOHN KNOWLES & Co. (LONDON), Ltd., L.M.S. Rly. Station.

PADDINGTON, W.2
BROAD & Co., Ltd., 4, South Wharf.

PLUMSTEAD, S.E.18
J. H. SANKEY & Son, Ltd., Villas Road.

POPLAR, E.14
JOHN BYFORD & Son, Ltd., Moody Wharf.

ST. PANCRAS
JOHN KNOWLES & Co. (LONDON), Ltd., L.M.S. Rly. Station.

TOTTENHAM, N.17
BROADWAY NANKIVELL & Co., Ltd., 569, High Road.

TOTTERIDGE, N.20
JOHN KNOWLES & Co. (LONDON), Ltd., L.N.E. Rly. Station.

WALTHAMSTOW, E.17
JOHN KNOWLES & Co. (LONDON), Ltd., L.N.E. Rly. Wood Street Station.

WEST NORWOOD, S.E.27
JOHN KNOWLES & Co. (LONDON), Ltd., 13, Knights Hill.

WIMBLEDON, S.W.19
WM. WAY (WIMBLEDON), Ltd., Station Yard.

WOOD GREEN, N.22
JOHN KNOWLES & Co. (LONDON), Ltd., 114, Nightingale Road.

LONDONDERRY (N. Ireland)
R. COLHOUN, Ltd.

LURGAN (N. Ireland)
WM. JOHNSTON, Sons & Co.

LUTON (Beds)
A. EASTAFF & Co., 7A, Old Bedford Road.

MAIDSTONE (Kent)
EDMUND VAUGHAN, Ltd., Tonbridge Road.

MANCHESTER
SAM NOVE & Co., 16, Oxford Street.

MANSFIELD (Notts)
THE CLUMBER BUILDERS' SUPPLY Co., 19, Clumber Street.

MARYPORT (Cumb)
THOS. MANDLE (BUILDERS' MERCHANTS), Ltd., South Quay.

MITCHAM (Surrey)
HALL & Co., Ltd., Morden Road.

MORECAMBE (Lancs)
W. J. CROSS, Station Yard, Euston Road.

NEW BARNET
WIGGINS-SANKEY, Ltd., Oakleigh Park Station Sidings.

NEW MILTON (Hants)
ROBERTS ADLARD (BOURNEMOUTH), Ltd.

NEWBURY (Berks)
H. JAMES (NEWBURY), Ltd., Pound Street.

NEWCASTLE-ON-TYNE
J. M. & J. BARTLETT, 4, Lombard Street.

NEWCASTLE (Staffs)
WM. MELLARD & Sons, Ltd.

NEWPORT (I.O.W.)
WM. DIBBEN & Sons, Ltd., Church Litten.

NEWTOWNARDS (N. Ireland)
WARDEN BROS.

NORTHAMPTON
TRAVIS & ARNOLD, West Bridge.

NORTHWICH (Ches)
MOORE & BROCK, Ltd., Baron's Quay.

NORWICH
BUILDERS' DIRECT SUPPLY Co., Ltd., 5, Upper King Street.

NOTTINGHAM
TRENT CONCRETE, Ltd., Colwick, near Nottingham.

OLDHAM
ROBERT WOOD, Mumps Stations Stone Yard.

ORPINGTON (Kent)
W. ASHBY & Sons, Ltd., By-Pass Road.

OSWESTRY
THE BUILDING MATERIAL SUPPLY STORES, Ltd., English Walls.

OXFORD
STEPHENSON & Co. (OXFORD), Ltd., Juxon Street Wharf.

PERTH
THOS. MUIR, SON & PATTON, Ltd. Glasgow Road.

POOLE (Dorset)
VALE & MYTTON, Ltd., The Quay.

STOCKISTS OF CIMENT FONDU

PORT TALBOT (S. Wales)
W. WILLIAMS & Co., Aberavon and Port Talbot Slate Yard.

PORTADOWN (N. Ireland)
THOS. HYDE & Sons.

PORTSMOUTH
G. A. DAY, Ltd., London Road, Stamshaw.

PRESTON (Lancs)
RICHARD SWARBRICK, 10, Hill Street.

PURLEY (Surrey)
HALL & Co., Ltd., Station Approach.

RADLETT (Herts)
ERITH & Co., Ltd., Station Approach.

READING
W. W. HALL, Pearl Buildings.

REDHILL
HALL & Co., Ltd., Victoria Wharf, Brighton Road.

REIGATE (Surrey)
HALL & Co., Ltd., Railway Station.

ROCHDALE
RUSSELL BROS., 262, Yorkshire Street.

ROMFORD (Essex)
HALL & Co., Ltd., Manor Road.

ROTHERHAM
ROTHERHAM BUILDERS' SUPPLY Co. (1917), Ltd., Rawmarsh Road.

ST. ALBANS (Herts)
W. G. BENNETT, Ltd., 77, Victoria Street.

ST. AUSTELL (Cornwall)
CORNISH MINES SUPPLIES, Ltd., West Hill.

SALISBURY (Wilts)
HOOPER & ASHBY, Ltd., York Road.

SCARBOROUGH
DEARDENS, Ltd., Lower Roscoe Street.

SCUNTHORPE
BUILDERS' MERCHANT Co., John Street.

SHEFFIELD
HODKIN & JONES, Ltd., Queen's Road.

SHIPLEY
J. E. WILKINSON & Son, Builders' Merchants.

SHREWSBURY
BUILDING MATERIAL SUPPLY STORES, Ltd., Wood Street.

SLEAFORD (Lincs)
PATTINSON & Co.

SLOUGH (Bucks)
WIGGINS-SANKEY, Ltd., 95, Wellington Street.

SOUTHAMPTON
HOOPER & ASHBY, Ltd., Britannia Wharf.
WM. DIBBEN & Sons, Ltd., St. Mary's Road.

SOUTHEND-ON-SEA
BYFORD BROS., L.M.S. Rly. Goods Depot.

SPALDING (Lincs)
WM. A. JEPSON, Ltd., 22, Spring Gardens.

STOCKPORT
WM. WHEELTON & Co., 60, Wellington Road South.

STOCKTON-ON-TEES
CASEBOURNE & Co. (1926), Ltd., Billingham.

STOKE-ON-TRENT
W. & H. S. EMERY & Co., Ltd., Copeland Street.

STOURBRIDGE
MORGAN & CHANCE, 178-181, Stourbridge Road, Lye, near Stourbridge.

SUNDERLAND
DUNWOODIE & Co., Ltd., Hadrian Street, Millfield.

SUTTON (Surrey)
HALL & Co., Ltd., Railway Station, High Street.

SWINDON (Wilts)
C. J. WEBB, Ltd., Station Road.

TAUNTON (Som)
H. J. POOLE, Concrete Industry, North Town.

TORQUAY
WM. DIBBEN & Sons, Ltd., Temperance Street.

TUNBRIDGE WELLS
THE BALTIC SAW MILLS Co., Ltd., 103, Goods Station Road.

TUNSTALL (Staffs)
JOHN BAXTER & Son (Tunstall), Ltd., Clive Street.

TWICKENHAM (Mddx)
JOHN KNOWLES & Co. (LONDON), Ltd., Southern Railway Station.

WALTON-ON-THAMES
WIGGINS-SANKEY, Ltd., 41, High Street.

WARRINGTON
THE WARRINGTON SLATE Co., Ltd., 33, Bold Street.

WATFORD
J. A. PRATT & Co. (1928), Ltd., 25, Woodford Road.

WELSHPOOL
THE BUILDING MATERIAL SUPPLY STORES, Ltd.

WEST HARTLEPOOL
J. T. ATKINSON & Sons, Park Road.

WEYMOUTH
BETTS & Co. (WEYMOUTH), Ltd., Saw Mills and Joinery Works.

WHITSTABLE
ARTHUR COLLAR, Ltd., 35, High Street.

WINCHESTER
HOOPER & ASHBY, Ltd., St. James's, Lane.

WISBECH (Cambs)
MILLER & Sons (WISBECH), Ltd.

WORTHING
HALL & Co., Ltd., 16, Chapel Road.

WREXHAM
W. F. HUMPHRIES, Ltd., Acrefair, near Wrexham.

YEOVIL
BRADFORD & Sons, Henford.

YORK
J. H. WALKER & Co. (YORK), Ltd., Layerthorpe Bridge.

SPEED

STRENGTH

RESISTANCE

CIMENT FONDU

BRITISH MADE

Something about CIMENT FONDU

CIMENT FONDU, the ultra-rapid hardening Aluminous Cement, was first manufactured in this country in 1926 at our works at West Thurrock, Essex. It has, however, been in use all over the world for the last fifteen years.

Aluminous Cement was the pioneer of all rapid-hardening cements and it is still superior to any other cement known. It is termed "Aluminous Cement" to differentiate it from the more old-fashioned Portland Cement, and its principal features are :—

1. Enormous strength.
2. Maturity in 24 hours.
3. Immunity from chemical attack.

The use of CIMENT FONDU ensures rock-hard concrete 24 hours after placing, and in almost every concrete job there is some part on which its use is essential if the time-factor is important or if permanency under all conditions is to be achieved.

In every sack of CIMENT FONDU will be found a certificate, similar to that reproduced below, issued by Messrs. David Kirkaldy & Son, the eminent Testing Engineers.

CIMENT FONDU
Made by LAFARGE ALUMINOUS CEMENT Co. Ltd LONDON
We Certify that we have tested this cement and have found it to comply with the requirements of British Standard Specification No. 12 (1925) as regards soundness and setting time and furthermore that the crushing strength of 3 to 1 standard mortar is
IN EXCESS OF
5,000 lbs. PER SQUARE INCH AT 24 HOURS
L 109255
David Kirkaldy & Son
TESTING & EXPERIMENTING WORKS 99 SOUTHWARK ST. LONDON S.E.1.

CIMENT FONDU is thus hall-marked as the World's Best Cement.

For urgent concrete work you must use ALUMINOUS CEMENT. Nothing else can be compared to it.

CHARACTIS

Setting Time The initial set of CIMENT FONDU (which does not take place before 3 to 4 hours) classes it as a "slow-setting" cement, giving ample time for the application of mortars and concrete.

High Early Strength With reasonably g aggregates a 4 : 2 : 1 c crete will give a compressive strength of 6,000 lbs. sq. in. at 24 hours; 8,000 lbs. per sq. in. at 7 days

Ageing The strength of CIMENT FONDU increa normally with ageing.

Expansion Nil.

Contraction Same as Portland cements. If cu under water may become alm negligible.

Specific Gravity Approximately 3.1.

Weight In practice an average of 90 lbs. per cu foot may be taken, as for Portland Cem

Porosity Considerably less than Portland cem

Adhesion The adhesion of CIMENT FONDU reinforcement or aggregate is very c siderably greater than in the case of Portland cemen When crushing concrete to destruction even at the of 24 hours the aggregate itself is usually fractured.

Sea Water CIMENT FONDU is free from composition. Full information on t subject is given in our book.

Waterproofing Waterproofing compounds are necessary and often deleteri Owing to the natural impermeability of CIME FONDU, it is invaluable for underground work wh an influx or pressure of water is met with.

The fullest possible information regarding CI ISTICS OF CIMENT FONDU," a copy of wh

ISTICS OF

Refractory Concrete CIMENT FONDU when mixed with a refractory aggregate will make an excellent refractory concrete which will resist temperatures up to 1,200° Centigrade.

istance to Chemical Attack CIMENT FONDU

ore resistant than Portland cement to practically y known substance which attacks ordinary concrete. und containing magnesium sulphate or sulphate of , gypsum or anhydrite, is utterly fatal to Portland ent concrete. CIMENT FONDU concrete can be with the assurance of absolute permanence. hates formed during the combustion of coals and or liberated by sewage, have a disastrous effect on land cement concrete, but are without influence on ENT FONDU. Moorland waters, tar oil, beer, r-juices, sour milk, etc., and certain very dilute s are without practical effect on CIMENT FONDU. ny specific case our Technical Service Section will be sed to give precise information.

nt CIMENT FONDU concrete can be painted with ordinary paints, without fear of future olouration or scaling.

ncreting in Frosty Weather Due to the intensity of chemical action during the hardening of CIMENT NDU, heat is developed.

he case of a reasonable mix and a reasonable bulk of crete, this heat is sufficient to prevent the mass from zing, even with an atmospheric temperature many rees below freezing point.

neral Never use CIMENT FONDU neat. Never mix Portland Cement or lime with ENT FONDU. Mixers, tools, mixing boards, etc., ld be thoroughly clean from Portland cement or

is included in our book, "THE CHARACTER- on request.

How to use CIMENT FONDU

Water The amount of water used for gauging should be sufficient, but only just sufficient to make the mixture plastic enough for the particular job in hand. It will be found that CIMENT FONDU requires rather more water than Portland cement.

Too much water reduces the strength at 24 hours, but, within limits, does not seriously impair the strength at later dates. Never use less than 4½ gallons per cwt. of cement.

Placing From two to three hours are available after mixing for placing concrete in position. It must not be disturbed thereafter until thoroughly hard.

Maturing All concrete is vastly improved by being kept damp until it is mature. The surfaces of CIMENT FONDU concrete must be prevented from becoming dry at any time within 24 hours of mixing the concrete. During hot weather particular attention should be given to watering.

Shuttering Timber shuttering should be thoroughly saturated with water before use. Under no circumstances need shuttering or centering be left in place more than 24 hours.

All vertical shuttering can be stripped and used again 10 hours after placing the concrete.

All supporting shuttering and centering can be removed and used again 14 hours after placing the concrete.

Jointing New Fondu concrete can be jointed to either old Portland concrete or old Fondu concrete. The surface to be jointed must be roughened, scrupulously clean, and thoroughly wet. The surface of old Portland concrete should be brushed with a neat slurry of Fondu.

Putting into Use When 24 hours old ALL Fondu concrete can be loaded to its full designed load and used as if it were Portland concrete 3 months old.

N.B. Clean aggregate is just as essential to good concrete as is good cement.

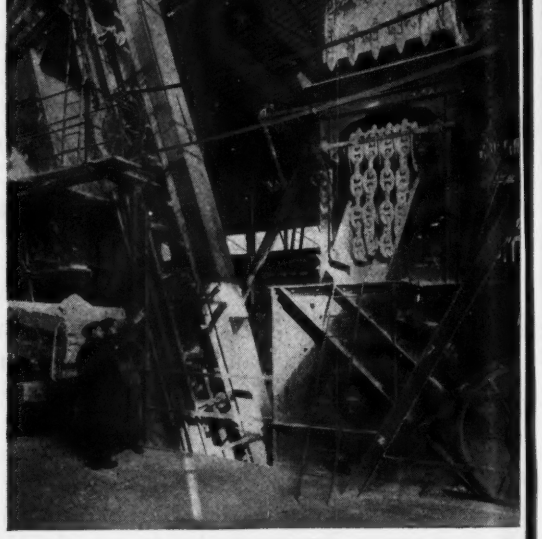
No. 1—View inside Stock Buildings on the High Level Gantry. The pits holds 12,000 tons of Bauxite, 2,000 tons of Chalk, 1,000 tons of Coal.

General view of Fondu Works.

No. 1

No. 2

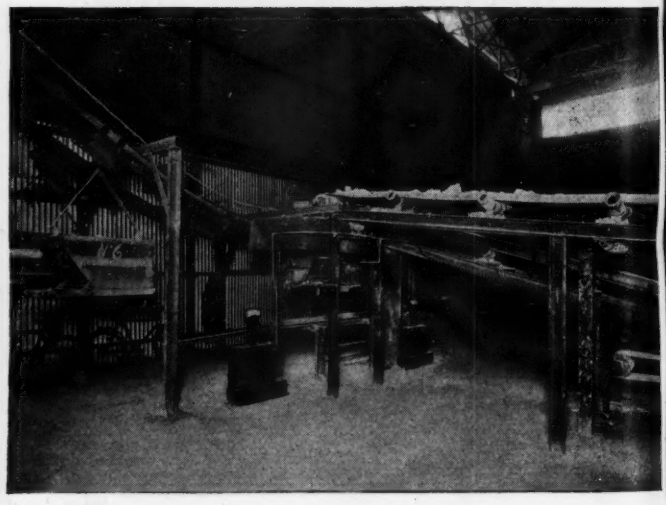
No. 2—Bauxite Crushing and Screening Plant, with the Briquetting Department in the background.



No. 3—Chalk Splitting and Screening Plant.

No. 4

No. 4—Bucket of Overhead Charging Conveyor receiving Chalk from Automatic Weighing Machines.



No. 5—Preparation and Weighing of Raw Materials. Briquettes, Bauxite and Chalk being automatically weighed and fed into Overhead Charging Conveyor.

No. 6

No. 6—Discharging Spout of No. 9 Furnace with Molten Cement pouring into Cooling Conveyors.

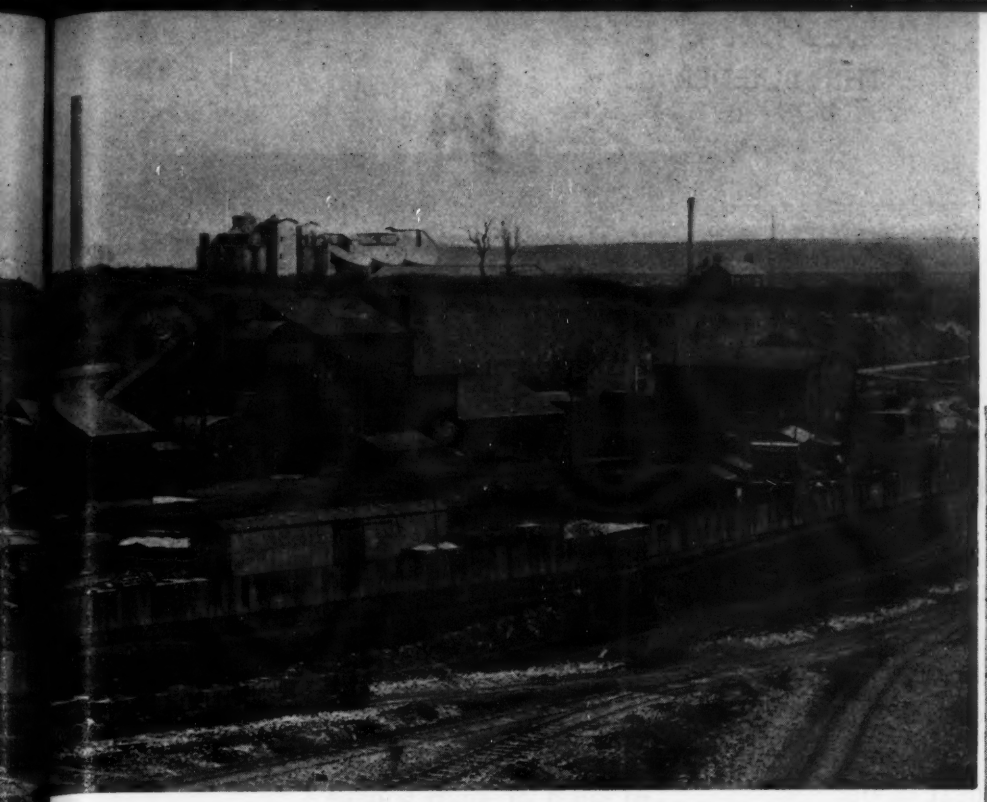
No. 7—Terminal of Overhead Charging Conveyor receiving Briquettes from Automatic Weighing Machine.

No. 8—Sack Filling and Weighing Machines, showing Kirkaldy Certificate being inserted into empty bags.

No. 9—Loading Quay for main line transport, showing Cement being delivered to Railway Wagons from Conveyors.

No. 10—Cement being loaded on lorry.

No. 11—Sack-filling Department. Cement being conveyed to lorries.



WHERE CIMENT FONDU IS MADE

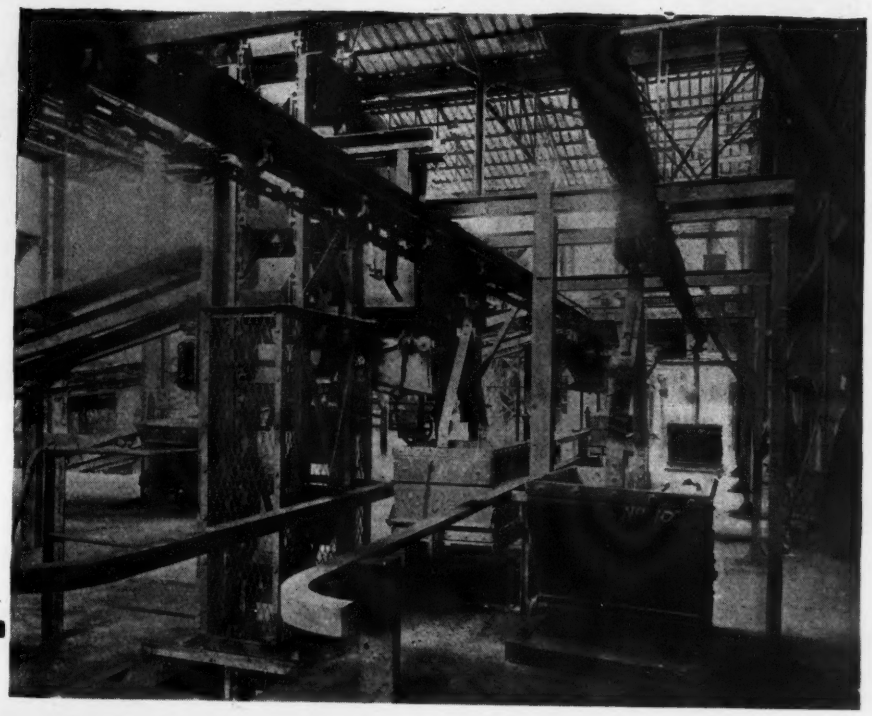
The Fondu Works are situate in the heart of the chalk district at West Thurrock, Essex, and are in communication with road, rail and sea transport.

The raw material from which *Ciment Fondu* is made, are the local chalk and aluminium ore, known as Bauxite. These materials, after being screened to a suitable size, are mixed together in proportions determined by their analyses. Weighing and mixing is carried out automatically to a very high degree of accuracy. The materials are then automatically charged into Reverberatory Furnaces. These furnaces are quite unique, and work at a pressure of about 12 in. of water. They are fired by pulverised fuel. Under the intense heat, the raw materials are reduced to a molten state, thus ensuring their complete chemical combination. The molten material pours continually out of tap-holes day and night, month after month, on to moving conveyors, where it is cooled, and then becomes known as clinker.

The output from each furnace is subjected to daily analysis. The clinker is then stored in silos, where it remains until a sample has been ground into cement, and subjected to all the usual routine tests. Having passed these tests, the clinker enters the heavy grinding mills, where it is reduced to the fine powder known as *Ciment Fondu*. As the clinker is so hard that it will readily cut glass, the difficulty of reducing it to a fine powder can be appreciated. When leaving the grinding mill, samples are again taken and tested, and the cement is conveyed to the finished cement silos, from whence it passes to the filling machines, where it is placed either into sacks for the home trade, or into drums and barrels for export trade. Here, again, samples are continually being taken for analysis and test.

A President of the Institution of Engineering Inspection was so impressed with the elaborate care taken in the manufacture and control of our product, that he wrote in a paper he read before his Institution, that it is difficult to see how one single sack of cement could evade this eternal vigilance.

As mentioned elsewhere, in addition to our own testing, the whole of our production is also tested by Messrs. David Kirkaldy & Son. The finished cement silos are kept under seal, and these seals are only broken to admit the cement to the filling machines when they have passed this firm's tests.



No. 8

No. 9

No. 10

No. 11

TECHNICAL SERVICE

As manufacturers of what is admitted to be the highest class building cement in the world, it is only natural that we should have considerable knowledge of the technique of concrete in general and " Ciment Fondu " in particular. This knowledge is placed at the disposal of our customers, and, indeed, all who are interested in Aluminous Cement, through our Technical Service Section.

Chemical Testing Laboratory.

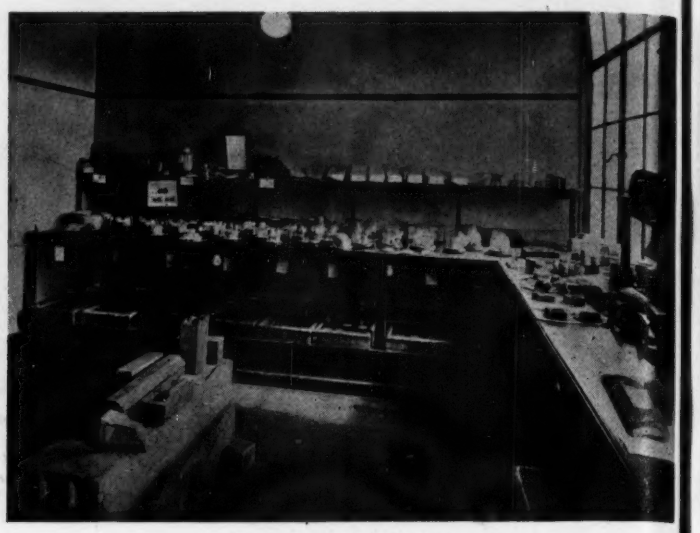
This department answers hundreds of questions almost daily, of which the following are typical examples :—

Will " Ciment Fondu " resist this, that or the other form of chemical attack ?

Is a certain sand suitable with " Ciment Fondu " for a particular purpose ?

What is the most economical mix with certain aggregates to produce a given result ?

Is a certain water suitable for gauging concrete, or will it have any adverse effect ?

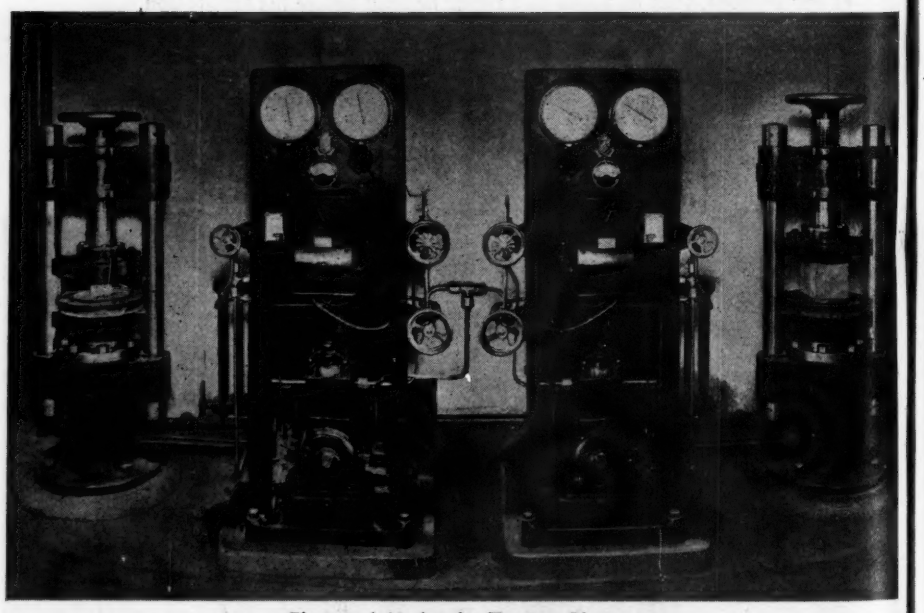


Museum at Fondu Works.

Is the use of " Ciment Fondu " justified in such or such a case ?

The Technical Service Section has at its disposal well-equipped Laboratories staffed by experienced Chemists. These men are constantly experimenting and conducting research work, often of a highly confidential nature, in connection with the use of Aluminous cement for work our customers have in hand. Enquirers can thus be assured that any matters for report which are placed in the hands of our Technical Service Section will not only receive the most skilled attention, but will also be treated in the strictest confidence.

You may require technical advice about concreting work of an unusual or difficult nature; if so, let our Technical Service Section collaborate with you in the matter and do their utmost to give you unbiassed opinion.



Electrical Hydraulic Testing Plant.
(For crushing cubes up to 300 tons pressure.)

Full appreciation of the unique properties of Ciment Fondu comes only from

PERSONAL EXPERIENCE

of the advantages attendant upon its use. That these advantages are sufficiently outstanding to merit your serious personal attention is, we think, proved by the examples and testimony contained in these pages.

Nevertheless, we would not ask you to accept our product at the valuation of others. If you use cement, you have a use for Ciment Fondu; try it on your next concreting job, large or small.

SUPPLIES ARE OBTAINABLE FROM YOUR LOCAL STOCKIST
(SEE PP. 63-66

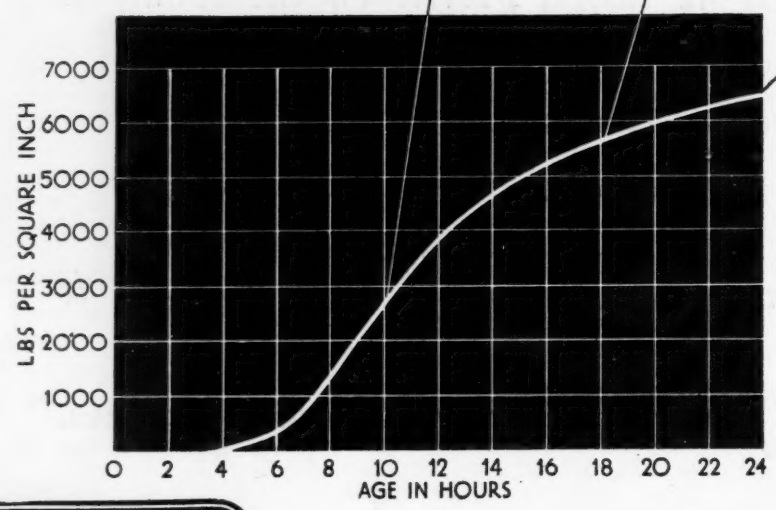
CIMENT FONDU
BRITISH MADE

IN HOURS NOT DAYS

You can ... ...strike all shuttering

You can ... ...take down all centering

You can ... ...use the concrete for any purpose

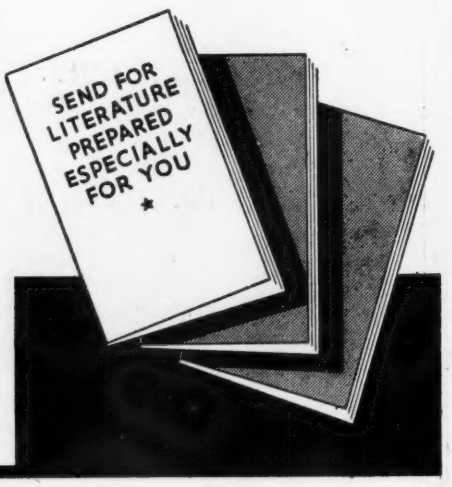


CONCRETE ROCK-HARD IN 24 HOURS

CIMENT FONDU

BRITISH MADE

Study the graph. Its message is that you can rush concrete work SAFELY. You can have any concrete ready for full use next day.



LAFARGE ALUMINOUS CEMENT COMPANY LTD.,
LINCOLN HOUSE,
296-302, HIGH HOLBORN, LONDON, W.C.1.
TELEPHONE: HOLBORN 6431.
TELEGRAMS: CIMENFONDU HOLB. LONDON.

Prepared and Produced by Allardyce Palmer Ltd.

3-173

London: Printed by THE PRESS PRINTERS, LTD., 93 Long Acre, W.C.2., and published by THE BUILDER LIMITED, at 4 Catherine-st., Aldwych, W.C.2—May 24, 1935